1963

An appraisal of public community colleges in Iowa

John Wesley Casey
Iowa State University

AN APPRAISAL OF PUBLIC COMMUNITY COLLEGES IN IOWA

by

John Wesley Casey

A Dissertation Submitted to the
Graduate Faculty in Partial Fulfillment of
The Requirements for the Degree of
DOCTOR OF PHILOSOPHY

Major Subject: Education

Approved:

Signature was redacted for privacy.

In Charge of Major Work

Signature was redacted for privacy.

Head of Major Department

Signature was redacted for privacy.

Dean of Graduate College

Iowa State University
Of Science and Technology
Ames, Iowa

1963

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

Pages

Page

Page

Page

Page

INTRODUCTION

Evolution of the Community College* Concept

The American public school system is a product of the influence of our European heritage and the unique adaptation it acquired in its New World setting. The kindergarten came from Germany, the elementary school came from Prussia, the high school grew out of European models, the college came from England, and the graduate school came from the German university idea. (50) The community college, however, is a unique American experiment.

Many late nineteenth century American educators received much of their formal instruction in the German universities. In an effort to set up a program of higher education in the United States, they established universities but they found no ready supplier of students such as the German gymnasium. The junior-community college concept was derived as a makeshift expedient to remold the high school into a six-year university preparatory institution. In actual practice it was not claimed by the universities and was often unwanted by the high schools. It was forced to find its own reason for being.

The first public junior college established that still exists is that at Joliet, Illinois, established in 1902. (37)

---

*The terms "community college" and "junior college" were used interchangeably in this investigation, although this investigator considers the term "community college" to be more descriptive of the present two-year institution.

Since the date of its founding, the number of public junior-community colleges has increased to a total of 405. The most recent figures available on community college enrollments indicated that during the 1961-62 academic year, 644,968 persons were enrolled either part-time or full time in public community colleges in the United States. (2)

The concept of the junior college as a distinct educational institution originated in the minds of educators on the college and university level of instruction. Lagomarcino (37) pointed to the inaugural address of Henry P. Tappan, President of the University of Michigan, in 1852, as the first definite suggestion for the change in college structure. It was Tappan's suggestion that the first two years of college be separated from the junior, senior, and graduate years. He contended that the responsibility for the first two years of college should be transferred to the high school.

Seashore (55) maintained that William Watts Folwell, President of the University of Minnesota, adhered to the same idea in 1869. Eells (12) indicated that Edmund J. James, President of the University of Illinois, made an attempt to interest the authorities at the University of Pennsylvania in a plan that was quite similar. Oran (48) stated that the President of Cornell University in 1891 was of a similar opinion.

The title, "Father of the Junior College," was given to William Rainey Harper, who was the first President of the

University of Chicago. It was at this institution that Harper put into effect a plan which separated the upper and lower divisions. The freshman and sophomore years represented a distinct division which he termed the "academic college" while the upper two years were called the "university college".

Lagomarcino (37) noted that the term "junior college" was first used in the literature in 1896 when the lower division of the four year program at the University of Chicago was given that title. At that time the upper division was renamed and called the "senior college". At a later date, Harper used the term "junior college" to designate an institution completely separate from the university.

Lagomarcino referred to Lewis Institute which was founded in Chicago in 1896 as being the first junior college. Since the date of his writing, a recently completed research indicated that there was an institution that antedated the Lewis Institute by nearly forty years. Susquehanna University of Selingsgrove, Pennsylvania, as the Missionary Institute of the Evangelical Lutheran Church, opened its doors for instruction on June 14, 1858. This institution was organized for the purpose (53, p. 13) of preparing "for the gospel Ministry men of sound piety and respectable ability and attainment . . . without necessitating them to pass through the Curriculum of an entire Collegiate education". The school began with a classical department, "designed to afford Students the necessary facilities for acquiring a

respectable business education as also to prepare themselves for the Junior and Senior Classes of College". Other investigations have made similar claims, tracing the first junior college as far back as 1852. (60)

The first junior college that was established which is still in existence is normally designated as Decatur Baptist College, Decatur, Texas. This institution was founded in 1891, and offered junior college instruction six years later. (26) The first public junior college was that at Joliet, Illinois. (37) It was established in 1902 and still operates under the name of Joliet Junior College. (2)

Three stages of development in the evolution of the community college concept have been identified. (26) The first stage ("Preparatory Stage"), from 1850 to 1920, was a period of gradual acceptance of the idea of a junior college authorized to offer a two-year college parallel program with an appropriate degree granted. The junior colleges established at this time grew directly out of an attempt at university reform which intended to duplicate only the first two years of the standard college curriculum. Advocates of the movement at this time were primarily interested in removing lower division work from the universities, thereby placing the responsibility for the freshman and sophomore years with the secondary schools.

The second stage included the period from 1920 to 1945 and has been called the "Formulative Period". During this

time the movement was given direction through the leadership of the American Association of Junior Colleges, led for several years by Jesse P. Bogue. Many junior colleges were established as extensions of work in the high schools and academies, or new institutions formed by reducing some four-year colleges to two-year colleges, or entirely separate two-year colleges. Throughout this period Dean Alexis Lange (38) of the University of California was a leading exponent of the theory that public secondary education should be extended upward through grades thirteen and fourteen. The emphasis in the earliest part of this period, was still on college parallel courses but there were later efforts to change or enlarge the functions of the junior colleges. Lange maintained it was the basic purpose of the junior college to offer terminal education to those individuals who would never go to a four-year college.

During this second period there was a rapid growth in the number of junior colleges that came into existence in the United States. Their development was marked by two new characteristics. First, the public junior colleges took a commanding lead in student enrollment, probably for economic reasons. Secondly, many institutions that specialized in vocational and adult education entered the junior college field. During this period, the American Association of Junior Colleges (12, p. 3) issued this statement:

> The junior college is an institution offering two

> years of instruction of strictly collegiate grade. This curriculum may include those courses usually offered in the first two years of the four-year college, in which case these courses must be identical, in scope and thoroughness, with corresponding courses of the standard four-year college. The junior college may, and is likely to, develop a different type of curriculum suited to the larger and everchanging civic, social, religious, and vocational needs of the entire community in which the college is located. It is understood that, in this case also, the work offered shall be on a level appropriate for high school graduates.

Lange (38) said that the junior college cannot make preparation for the university its excuse for being. Rather, he said, its courses of instruction and training should be culminal instead of basal.

Hill (25) cited the growth of terminal courses in junior colleges from 100 in 1921 to 400 in 1925, to 1600 in 1930, and to over 4000 by 1941. Colvert (9) examined several studies and showed the following proportion of terminal courses in relation to all junior college offerings:

1917	17.5% (McDowell)
1921	28.0% (Koos)
1930	33.0% (Eells)
1947	32.0% (Colvert)

Another strong advocate of semi-professional education during this period was President William Snyder of Los Angeles Junior College (now Los Angeles City College). In 1929 he inaugurated fourteen semi-professional curriculums in that institution. Snyder noted that at least 50 percent of junior college graduates did not continue their studies and that semi-professional courses were needed as much as transfer courses. He, however, recognized the danger of becoming

strictly vocational institutions and embraced the principle that community colleges must have well-established courses which embrace both cultural and utilitarian subjects. (60)

The third and current stage is that which places emphasis on the concept of the "community" college. At the same time, the "junior" college concept is being de-emphasized. In 1930 in the first issue of the Junior College Journal, Nicholas Ricciardi (52, p. 24) defined the functions of the community college which was a model for later definitions. He said:

> The fully organized junior college aims to meet the needs of a community in which it is located, including preparation for institutions of higher learning, liberal arts education for those who are not going beyond graduation from the junior college, vocational training for particular occupations usually designated as semi-professional occupations, and short courses for adults with special interests.

Hollinshead (27, p. 111), in 1936, issued a similar statement:

> That the junior college should be a community college, meeting community needs; that it should serve to promote a greater social and civic intelligence in the community; that it should provide opportunities for increased adult education; that it should provide educational, recreational, and vocational opportunities for young people; that the cultural facilities of the institution should be placed at the disposal of the community; and that the work of the community college should be closely integrated with the work of the high school and the work of other community institutions.

In 1940 the first "Fundamental principle" of the Commission on Terminal Education (13, p. 245) was "the junior college is essentially a community institution".

Thus, it can be seen that the idea of a "community" college was engendered before 1945. Progress in that direction was a post-war function, however.

Hillway (26) maintained that there were three main forces that created the modern community college. They were: (1) the nineteenth century efforts to reform American university education; (2) the unusual growth in the United States of the various types of adult and vocational education as our economy became more industrialized, and; (3) the continuing democratic tendency toward the extension and equalization of educational opportunity for all Americans. This period was referred to by Hillway as the "Period of the Community College".

The emphasis in education has been altered considerably since the turn of the century. The concept is now prevalent that education is a continuing function, a life-long process, and greater demands are being placed on community colleges to provide desired services.

In summary, the "junior college", connoting a small edition of a college and serving as a single-purpose institution has evolved into the "community college", connoting a breadth of services and a multi-purpose institution. The community college is a unique American institution. It represents an upward extension to the college level of the tradition and belief in educational opportunity for all which was first found in the elementary

schools and then in the public high schools.

It is a "comprehensive" college rather than a single-purpose institution, preparing some for advanced college study, others for their respective vocations, but attempting to offer to all an appropriate general education while providing needed services to the community of which it is a part. Its control is primarily in the hands of local people, operating under state legislative authority. Its support is basically from local communities, supplemented by state taxation. It profits from a reciprocal exchange of human and other resources with the community in which it is located. Its objective is now lifelong education rather than merely a two-year period for college-age youth.

The community college has offered proof of its ability to be adaptable. It has adjusted to changing purposes. In the beginning, the basic purpose was the duplication of the first two years of the typical college program. The need for vocational preparation followed. It has also provided general education appropriate for all students. Recently it has adapted to the need for adult education. It has also proved its adaptibility in admitting students with wide ranges of abilities, interests, and goals. It has adapted to differences in communities.

Because of the nature of its development there are great diversities in community colleges. Each is a reflection of

the community in which it is located, the objectives it has formulated, the tasks it has assumed, and the resources available.

Whether or not a two-year institution deserves the right to be called a "community" college is determined by the scope and adequacy of the services it performs for the community. Local support for the institution is determined in no small measure by the extent which the community feels the impact of the institution.

Because of the variety of curricular offerings in the community colleges, the guidance function has been developed to aid the student in making appropriate choices and decisions. Wise choices depend upon sound information. Community colleges have assumed the responsibility for supplying the community with needed information for individuals with varying needs.

The transition from "junior" college to "community" college is not complete. It is, however, in progress in Iowa and around the nation.

This transition involves problems of increased enrollments, organization, staffing, facilities, supervision, and finance. In Iowa the reality of these problems face layman and educator alike. Whether the community college structure is reorganized, modified or permitted to operate in the

traditional manner, community involvement is inevitable.

Purpose of the Study

This study was designed to assess the role of the community colleges in Iowa. The more specific purposes of the investigation were:

1. To appraise certain aspects of the sixteen public community colleges in Iowa.
2. To trace the achievement of community college transfer students after transferring to one of the three state educational institutions.
3. To predict the achievement of transfer students of Iowa public community college who matriculated at The Iowa State University, The State University of Iowa, and The State College of Iowa.
4. To determine the graduation rate of the community college students who matriculated at the three state institutions of higher education during the academic years 1955-58.
5. To predict the probability of graduation of public community college transfer students from the Iowa State University, the State University of Iowa, and the State College of Iowa.

Method of Procedure

One thousand eighty-eight transfer students from the 16 public community colleges in Iowa to the three state senior institutions were included in this investigation. This represented the entire population, with certain delimitations, rather than a sample of the group. To be included in the investigation the students must have: (1) transferred from one of the public community colleges in Iowa to the Iowa State University, the State University of Iowa, or the State College of Iowa during any quarter or semester beginning in the Fall of 1955 and continuing up to, but not including, the Fall of 1959; (2) transferred directly to one of the three state institutions and remained enrolled in that particular institution until graduation or attrition; (3) attended no other educational institution, public or private, before entering community college or in the interval between attendance in a public community college and matriculation at one of the three state institutions, and; (4) graduated from, or was a dropout of, one of the three state senior institutions.

The academic records of 1088 community college transfer students who matriculated at the three state institutions during the years 1955, 1956, 1957, and 1958 provided the raw data for this investigation. The data for the investigation were collected from the office of the registrar

at each institution, from each of the 16 public community colleges, from several high schools in the state, from the State Department of Public Instruction, and from catalogs issued by the public community colleges in Iowa.

Criterion of Achievement of Community College Transfer Students

The quality grade point averages (QPA) compiled by the students who transferred to the three state senior institutions from the public community colleges were used as measures of achievement in this investigation. All of the 16 public community colleges and the three state senior institutions employed the following grading system:

A = 4 quality points

B = 3 quality points

C = 2 quality points

D = 1 quality point

F = 0 quality points

Prediction Variables

To trace the achievement of community college transfer students who transferred to one of the three state educational institutions, variables employed were:

1. high school quality grade point
2. community college quality grade point
3. first term (semester) senior college quality grade point

4. third term (second semester) senior college quality grade point

5. cumulative senior college quality grade point at end of first year

6. cumulative senior college quality grade point at time of graduation or attrition.

To predict the achievement of transfer students of Iowa public community colleges who matriculated at the three state institutions, three criteria were considered:

1. first term senior college quality grade point

2. quality grade point at the end of the first year of senior college

3. graduation from the senior institution.

Variables employed to predict quality grade point at the end of the first term (semester) of senior college were:

1. high school quality grade point,

2. community college quality grade point

3. American Council on Education (ACE) Score (Iowa State University only).

To predict the quality grade point mean at the end of the first year of senior college, the following variables were used:

1. high school quality grade point

2. community college grade point

3. first term (semester) senior college quality grade point.

To predict graduation from the senior institution, the following variables were employed:

1. high school quality grade point

2. community college quality grade point.

Basic Assumptions

For the purposes of this study, the following basic assumptions were made: (1) attrition was assumed if a student did not graduate from the institution in which he was enrolled, and (2) the four year period of 1955, 1956, 1957, and 1958 was a sufficient length of time to evaluate the success of community college transfer students.

Statistical Treatment

The technique of analysis of multiple regression was used to test the significance of the regression by first using a combination of prediction variables and then by testing for any significant loss in prediction ability when a variable or variables were eliminated from the prediction scheme. The prediction equation for three variables in predicting first term senior college quality grade point means was

$$Y = a_1X_1 + a_2X_2 + a_3X_3 + C$$

where Y = first term senior college quality grade point

X_1 = high school quality grade point

X_2 = community college quality grade point

X_3 = American Council on Education Score (ISU only).

For the prediction of quality grade point at the end of the first year, the technique of analysis of multiple regression was used to test the significance of the regression by first using three variables and then by testing for any significant loss of prediction ability when a variable or variables were eliminated from the prediction scheme. The prediction equation for three variables was

$$Y = a_1X_1 + a_2X_2 + a_3X_3 + C$$

where Y = cumulative quality grade point at end of first year in senior institution

X_1 = high school quality grade point

X_2 = first term (semester) quality grade point

X_3 = community college quality grade point.

For the prediction of graduation from the senior institutions, the technique of analysis of multiple regression was employed to test the significance of the regression by first using two variables and then by testing for any significant loss in prediction ability when a variable was eliminated from the prediction scheme. The prediction equation for two variables was

$$Y = a_1X_1 + a_2X_2 + C$$

where Y = graduation from the senior institution

X_1 = high school quality grade point

X_2 = community college grade quality grade point.

For the purpose of prediction of graduation from the institutions, graduation from each senior institution was considered separately. (A further division was planned for dividing the community college transfer students into two groups: (1) those who completed at least 30 semester hours in the community college before transferring and, (2) those who had completed at least 60 hours in the community college before transferring.) Due to the restricted number of students in some of the groups, prediction was rendered impossible. The technique of multiple regression was then used to predict graduation for only the total group of transfer students. Coefficients of correlation between each prediction variable and the appropriate criterion as well as inter-correlations between the prediction variables were computed.

For the purpose of brevity, the following abbreviations, coded values and symbols were used where applicable throughout the study:

ACE	American Council on Education Psychological Examination
F	Mean square for regression divided by the mean square for residuals and the quotient used to test for significance
IBM	International Business Machines - Equipment used by the Computation Center at the Iowa State University in all of the analyses
ISU	The Iowa State University of Science and Technology
QPA	Quality Point Average, used synonomously with Grade Point Average (GPA)

R^2	Multiple coefficient of correlation squared
SCI	The State College of Iowa
SE	Standard error of the estimate
SUI	The State University of Iowa

REVIEW OF RELATED LITERATURE

Types of Community Colleges

Medsker (45) identified three basic types of organizational plans for two-year institutions of higher learning. They were: (1) locally-controlled or supported junior and community colleges, with or without state aid, (2) the junior college or technical institution fully controlled and supported by the state, and (3) the two-year extension center of a four year institution.

Eells (12) suggested eight possible methods of classification of the community colleges. These included: (1) by sex admitted: coeducational, men, women; (2) by length of course: 1, 2, 3, 4, 5, or 6 years in length; (3) by function: terminal, college preparatory, or both; (4) by size of enrollment; (5) by age of the institution; (6) by accreditation; (7) by method of origin; (8) by method of control. The last method, method of control, is the most used method and probably the most fundamental. This system is used by the United States Office of Education, The American Association of Junior Colleges, the state and regional associations of colleges and secondary schools, and other agencies which collect and disseminate information concerning community colleges. The primary basis of classification is simply by the division of public or private institutions.

Eells (12) listed five types of publicly controlled

junior colleges. They were: (1) federal junior colleges; (2) state branch junior colleges; (3) state independent junior colleges; (4) district junior colleges; (5) local or municipal junior colleges. At the time of Eells' writing, only one junior college was classified as a federal junior college, this being the one at Balboa Heights in the Canal Zone which was operated by the United States government through the direction of the War Department.

There was some tendency for two-year community colleges to become four-year institutions. Gleazer (18) reported that from 1956-60, forty junior colleges either became senior institutions or were in the process of changing. Thirteen of these institutions were publicly-supported and 27 were under private auspices. Of the private colleges, 17 were church-related and 10 were independent. Only six of the publicly-supported junior colleges becoming senior colleges were institutions separarated from a university or other senior college. The other seven were actually extension centers. The fact that only six publicly-supported community colleges out of a national total of nearly 400 institutions changed their program to a four-year type would not indicate any substantial trend in that direction. It was also reported that 27 of the 275 privately-supported community colleges became senior colleges which indicated more of a tendency in those institutions toward a four-year program. During the same four year period, 79 new

junior colleges were established, ten of which were church related, six were independent, and 63 publicly-supported. The State of Florida led the list with 18 new public institutions and one private. New York, Maryland, and California followed with new institutions ranging from 13 down to five.

In Iowa during the period of 1956-60, none of the public community colleges became four-year institutions. In fact, this has never happened in the history of the state.

Functions of the Community Colleges

Historically, the function of the community college had been (1) college parallel or preparatory, (2) terminal education, and (3) the adult education. In recent years this three-fold classification had generally been regarded as inadequate and other classification or functional systems had been presented.

From its beginning, the concept of the junior college was not a narrow one. A 1904 Committee Report (15), referred to the purpose of attracting and holding for two additional years of general culture and training students who otherwise would receive no higher education. In 1917 Angell (4, p. 302) summarized the purpose of the community college in this way:

> While at present our junior colleges are largely engaged in fitting students for advanced college or university work, the future development and its greatest mission will be to extend the opportunity for further education to students who cannot or should not take the traditional college course.

Angell (4, p. 302) referred to the community college movement as a "renascence of communal interest in higher education, of which the first great wave gave us our noble state universities and our agricultural and engineering schools".

McCowell (42), in classifying community college students based on their expectations categorized the institutions in four separate categories: (a) those who expect to continue liberal arts schooling at some standard four year university or college after graduation from community college; (b) those who expect to enter professional schools; (c) those who expect to enter some vocational area, and; (d) those who consider the community college as a finishing school and, as a result, end their formal education.

Thomas (59), in a doctoral study dealing with the community colleges in California, concluded that out of 1,044 men studied, 755 of them registered the opinion that two years of college would have been adequate for the work in which they entered in the field of engineering. The implication here is that the community colleges might well do much of the technical training that is now being done by four year institutions.

Koos (36), in an early survey analyzed 22 articles and addresses and 56 junior college catalogs. From this survey he arrived at 25 purposes which were being fulfilled or which he thought should be fulfilled by the junior colleges.

They were:

1. Offering two years of college work acceptable to colleges and universities.
2. Terminal education for students
3. Providing occupational training of junior college grade
4. Providing training for citizenship
5. Offering better opportunities for training and leadership
6. Providing religious and moral training
7. Giving intellectual training
8. Providing physical training
9. Popularizing higher education
10. Continuing home influence during immaturity
11. Affording attention to the individual student
12. Allowing for exploration
13. Offering better instruction in these school years
14. Placing in the secondary school all work appropriate to it
15. Making the secondary school period coincide with adolescence
16. Fostering the evolution of the system of education
17. Economizing time and expense by avoiding duplication
18. Assigning a function to the small college
19. Relieving the university of the responsibility of the first two years of higher education
20. Making possible real university functioning
21. Improving high school instruction
22. Assuring better preparation for university work

23. Caring better for brighter high school students

24. Offering work meeting local needs

25. Affecting the cultural tone of the community

Koos concluded, as Barton (5) did later, that the primary purpose reflected in the catalogs was the offering of two years of standard college work. From this he concluded that the goals entertained for the community college far exceeded the original service. Fields (16) reached a similar conclusion.

Eells (12) set forth five categories which he regarded as the functions of the community college. They were: (1) the popularizing function, (2) the preparatory function, (3) the terminal function, (4) guidance, and (5) other functions. Under "other functions" he included the research function, instructional function, the cultural function, and the reorganizational function.

Campbell (7), in 1930, made an extensive study of junior college purposes by analyzing 343 junior college catalogs and 349 titles of available literature. He found that of all junior college catalog statements, 58.7 percent dealt with the preparatory function, 15.5 percent with the terminal and occupational functions, 13.6 percent with the democratizing function, and 11.8 percent with the function of popularizing higher education. Through an analysis of the literature, the same order resulted but the percents were different. Preparatory was 39.3 percent, terminal 33 percent,

democratizing 14.7 percent and popularizing 12.8 percent. Campbell also found, as did Koos, that the literature revealed greater stress on the terminal and occupational functions than did the catalogs.

Campbell (7) concluded that the community colleges were only partially performing the function of providing terminal education. He reported:

> The junior college is only partially performing the function of providing terminal education. In theory, the junior college is a logical unit in which large numbers of students should complete their training with courses definitely terminal in nature. In practice the efforts of the junior college has been confined quite largely to the field of teacher training. The junior college is the completion school for practically one-half of its students.

In 1932, Koos (35) reported that 243 of 292 junior colleges (82 percent) actually offered courses of a terminal nature in the field of business and economics.

Thomas' doctoral study (59) revealed that 13 California public community colleges offered well-organized vocational curricula in nine areas of semi-professional training.

Writing on the subject of the most significant developments in the junior college field in the past 25 years, several educational leaders (51) concluded that they were: (1) the emergence of the concept of the community college, (2) increasing and consistent adaptibility, (3) development of adult education programs, (4) development of broad comprehensive curricula, (5) a broadening concept of scope and functions, (6) discovery of extraordinary possibilities in

ordinary people, (7) improvement of instruction, (8) recognition and acceptance, and (9) full discovery of its own potential. Reynolds (51) concluded that the writers appeared to be in agreement on the three major areas of development: (1) emergence of the community college concept, (2) improvement of instruction, and (3) recognition and acceptance.

Fields (16) indicated that there were certain pressures for and against broader programs. As pressures for broader programs and more inclusive functions, he identified several forces at work. The drive to attain a greater and greater degree of democracy in all our social arrangements and the increasing complexity of modern living had spurred changes in educational purposes. The depression of the thirties brought pressure toward broadened purposes for the junior colleges and World War II brought about the need for technical education. Shifts in the occupational pattern had had their effect. Special students and those interested in adult education had altered the enrollment trends, which, in turn, had changed the academic offerings. Instructors and administrators in junior colleges had exerted pressures toward program expansion.

The National Society for the Study of Education Yearbook Committee (47) identified four major functions of the community colleges. They were: (1) preparation for advanced study, (2) vocational education, (3) general education, and (4) community services. Also to these functions the Committee

added two others which were regarded as important. The community colleges provided low-cost, post-high school education in proximity to the homes of students and, second, they offered opportunities for guidance and counseling.

Medsker (45) saw the function of the community college as being a program for students who wished to transfer to four year colleges or universities, terminal programs which might be either general (general education or liberal arts, etc.), or occupational or combinations of these. He noted that a salvaging function was performed in which the community college provided the opportunity for a student to take courses which he might not have taken in high school but which were required for admission to a senior college, or for admission to a sequence of courses in a community college. It provided the student who lacked skills necessary for the successful pursuit of certain college subjects an opportunity to improve these skills after entering community college. It provided an opportunity for improvement for the student who possessed a low academic average on the high school level. Students might then be qualified to transfer to four year institutions in desired subject areas. A program was provided for the academically superior student and for adults in the community. Community services were offered by the community colleges.

Reynolds (51) classified the possible community services in the following categories: (1) mutual aid for meeting

college-community needs, (2) community experience programs (utilizing the community as a laboratory for the college), (3) community study and research problems, (4) public affairs education, (5) specialized community services, (6) community development, (7) community participation and leadership training, (8) use of mass media communication, (9) public relations, (10) community use of school plant, and (11) adult education.

Accreditation of Community Colleges

It can be observed from Table 1 that 374 community colleges out of a total of 678 were accredited by regional accrediting associations. An analysis of the 1962 Junior College Directory of the American Association of Junior Colleges showed that 123 community colleges were accredited by the Southern Association of Colleges and Secondary Schools, 87 were accredited by the North Central Association of Colleges and Secondary Schools, 66 were accredited by the Western College Association, 59 were accredited by the Middle States Association of Colleges and Secondary Schools, 23 were accredited by the Northwest Association of Secondary and Higher Schools, and 16 were accredited by the New England Association of Colleges and Secondary Schools. (1)

Two hundred eighty-five community colleges were approved or accredited only by the state departments of education, a state board or accrediting commission, an association of

Table 1. Public community colleges in the United States

State	Total Community Colleges	Public	Independent	Regionally Accredited
Alabama	7	0	7	5
Alaska	4	3	1	3
Arizona	2	2	0	1
Arkansas	4	1	3	1
California	73	67	6	64
Canal Zone	1	1	0	1
Colorado	8	7	1	4
Connecticut	8	1	7	5
Delaware	1	0	1	1
District of Columbia	7	0	7	4
Florida	29	25	4	8
Georgia	18	8	10	13
Guam	1	1	0	1
Hawaii	1	0	1	1
Idaho	5	3	2	4
Illinois	35	22	13	19
Indiana	2	1	1	1
Iowa	21	15	6	6
Kansas	20	14	6	5
Kentucky	9	1	8	9
Louisiana	1	0	1	1
Maine	3	0	3	1
Maryland	19	12	7	4
Massachusetts	24	7	17	7
Michigan	19	16	3	11
Minnesota	13	9	4	5
Mississippi	26	17	9	17
Missouri	19	17	9	13
Montana	2	2	0	0
Nebraska	6	4	2	1
New Hampshire	1	0	1	1
New Jersey	9	1	8	3
New Mexico	4	4	0	4
New York	47	25	22	20
North Carolina	22	5	17	19
North Dakota	4	4	0	0
Ohio	8	1	7	0
Oklahoma	15	11	4	4
Oregon	6	4	2	2
Pennsylvania	33	14	19	25
Puerto Rico	1	0	1	1
Rhode Island	1	0	1	0

Table 1 (Continued)

State	Total Community Colleges	Public	Independent	Regionally Accredited
South Carolina	9	0	9	4
South Dakota	3	0	3	0
Tennessee	6	0	6	6
Texas	47	34	13	32
Utah	4	4	0	4
Vermont	2	0	2	2
Virginia	13	3	10	9
Washington	13	12	1	10
West Virginia	3	1	2	1
Wisconsin	34	31	3	9
Wyoming	5	5	0	2
TOTALS	678	405	273	374

state colleges, or a state university. There were several that were not accredited by any organization. One was approved by the Junior College of Business, another through its affiliation with the Catholic University of America, and seven were approved by the Engineers' Council for Professional Development. California had the largest total of accredited institutions with a total of 64 so designated.

It can be noted that Iowa had six two-year institutions accredited by a regional association. Of the six accreditations in Iowa, all were accredited by the North Central Association of Colleges and Secondary Schools, and of the six accreditations, only two, Burlington Community College and Mason City Junior College were public institutions. The other

four were religiously affiliated.

Each of the public community colleges in Iowa had some type of accreditation or affiliation, however. Regional accreditation in Iowa is granted only by the North Central Association of Colleges and Secondary Schools. The State Department of Public Instruction has encouraged all public community colleges to work toward meeting the regional standards of the North Central Association, and in a reasonable time, apply for accreditation by that group.

State accreditation in Iowa is determined through meeting standards which have been adopted jointly by the State Board of Regents and the State Board of Public Instruction. State accreditation is required for credits of a community college to be accepted by the Iowa public institutions of higher learning and in order to receive state financial aid. The Iowa Committee on Secondary Schools and College Relations is a committee organized under the authority of the State Board of Regents and the State Department of Public Instruction for the purpose of accrediting institutions for collegiate rank in the state. This accreditation is based on yearly inspections of the several institutions.

Legal and Financial Provisions for Public Community Colleges

The first example of an enabling act for public community colleges was that passed by the legislature in California in 1907. (16) That act provided no direct support from the

state but merely recognized the right of school districts to organize institutions of this type for local students.

Hillway (26) noted that the principal kinds of legislation passed since 1915 have been (1) related to the formation of community college districts, or (2) related to state support for the two-year institutions. In some states there were definite subject matter requirements enacted by the legislature that were ordered into the community college curriculum.

Hillway noted that a majority of the community colleges were operating under the control of local high school districts with the same boards administering them as administered the local high schools. Martorana (43) confirmed this by saying that approximately 70 percent of the local and district public community colleges were operating under the same boards as the high schools in 1952.

Martorana's (43) survey of legislation that affected community colleges in the 1957 sessions of all the state legislatures revealed that 38 states considered legislative proposals which had a bearing on the community college level. This included three states which had legislation introduced which failed to become law and 35 states that enacted laws which influenced the community college level of instruction. In the legislative sessions from 1947 to 1953 not more than 18 state legislatures considered community college bills. Contrasting with this, in 1955 twenty-six legislatures

deliberated on enactments that directly affected community colleges.

At the time of Martorana's report in 1958 thirty-one of the states had enacted laws recognizing local public community colleges, regulating their establishment and operation. Six had passed their first general community college laws in 1957. In 12 states public community colleges were established either under special acts that authorized individual colleges or as branches of existing colleges or universities. Five states and the District of Columbia had neither general legislation on public community colleges nor had any public community colleges. These states were: Delaware, Maine, New Hampshire, Rhode Island, and South Dakota. As evidence of the fact that various state legislatures were studying the community college movement, Morrison (46) reported that twenty states recently completed or were in the process of completing studies involving the two year colleges.

Thornton (60) noted that each state should have effective and adequate state legislation for the establishment and maintenance of public community colleges. Provisions in such legislation should include (1) a definition of the community college, (2) provision for local initiative in the establishment of new community colleges, (3) provision for a survey of the local area by a designated state agency to determine if an adequate college could be supported, (4)

insistence on acceptance of the community college proposal by the local electorate, (5) authorization for any varieties of local organization and control which are appropriate to the state and to the locality, and (6) allocation of elements of control between a local board and a supervision state agency.

The Commission on Legislation of the American Association of Junior Colleges, after a meeting on the topic of state legislation for community colleges, issued A Guide to State Legislation. (1) The Commission proposed that a state should make a study of the needs for post high school education and the extent to which those needs were unmet before new legislation is enacted or major amendments made to existing laws. Copies of the completed survey should be made available for statewide distribution to all persons interested including community, social, civic, governmental and educational agencies.

The Commission recommended the following guides in the formulation of a state plan for community colleges.

Administration The Commission maintained that the state government should be responsible for the supervision and regulation of community colleges but that the community college should be locally controlled. A regulatory agency at the state level should be established to provide for the orderly development of a system of local community colleges within each state. The individual community colleges within

a state should be responsible for the state regulatory agency for approval and accreditation. The Commission also recommended that the state agency should provide supervision and consultation to the community colleges to insure effectiveness in meeting community needs and to guarantee maintenance of standards of instruction and student achievement. Community colleges should be encouraged to qualify as quickly as possible by the regional accrediting agenoy in that particular area. It was also recommended that their specialized areas (vocational, technical, etc.) should be recognized by appropriate professional agencies. Individual community colleges should enjoy a maximum amount of local administrative control and a minimum amount of control from the state.

Research showed, concluded the committee, that the community college will best meet the needs of the local community when the control of the institution is under a local board. The board should consist of 5 to 11 members and its primary function should be the operation of the college under the provisions of state laws and regulations while maintaining the interest of the community. The local community college district should conform as closely as possible to the area from which the students come. The optimum method of districting would vary from state to state but it was recommended that eventually all parts of the state be in a community college district. In the absence of this ideal, the Committee proposed that communities served

by a community college, but not included in the community college district, should contribute to the support of that institution. The administration of the local community college should be separated from the administration of a high school or other educational unit. It should have a separate budget and its own administrative staff with its chief officer reporting directly to the board or to the chief executive officer of the board. The community college should be primarily concerned with programs terminating short of the baccalaureate degree although it was recognized that some curricular offerings may require more than the standard two years or 60 semester hours of college work.

Financial support The Committee recognized the problem of financing a community college. It was recommended that the state should be responsible for substantial support of the community colleges. In some instances, it was recommended that the state should assume full responsibility for building and operating the institutions. The Committee maintained that the community colleges should be tuition-free but if tuition is charged it should be kept low enough to permit all qualified students in the community college area to be served. The total of such fees should not constitute more than 20 percent of the operating per full time equivalent student. It was recommended that a state plan for supporting community colleges should be based on the definition of needs with primary

emphasis on the education needs of the population to be served rather than on the assessed valuations within those districts.

Enrollment Community colleges should be located where they enroll an adequate number of students to permit the development of a comprehensive curricular program. The Committee recommended a potential enrollment of 500 full time students in order to guarantee a comprehensive program. It was recognized that community colleges might have smaller enrollments and be more restricted in the early stages of development but should have the potential for growth.

Curricula and services The program of the community college should be varied and comprehensive. It was the recommendation of the Committee that there be: (1) general education for all full time students; (2) courses in addition to the general education courses, equivalent to those taken by freshmen and sophomores in the state four year institutions; (3) vocational-technical, and semi-professional programs; (4) continuing or adult education; (5) community service programs; (6) services for testing, guidance, and individual development. Provisions should also be made for maintaining an adequate staff, for a continuing program and for obtaining needed consultation services.

The Commission on Legislation of the American Association of Junior Colleges meeting the following year (1961)

identified some of the values of intensive surveys of the communities before community colleges are established. (3) Answers might be provided as to desirable locations for the institutions, the number and type of institutions that should be operated, procedures for articulating the programs of the two-year colleges with those of the high schools from which students come and to the senior colleges to which they transfer. Curriculums would be fitted to the local area needs of the students as expressed by their talents and interests and the trained manpower needs of industry and business through the survey. The extent and character of local area resources (personnel, material, and finances) can be clearly appraised and documented so that available support of the establishment and operation of the two-year college can be assured. The degree of local area interest and enthusiasm for the acquiring a two-year institution can be assessed and a public understanding of the role and scope of the public two-year college and its potential services to the area can be enhanced.

With respect to financing the public community colleges, the Commission identified three fundamental principles which must be understood before the details of a financial plan for community colleges could be discussed. They were: (3, p. 9)

1. Principle of purpose. Education beyond the high school is essential enough to be made available to all persons who can profit from the opportunity.

2. Principle of method. Since there are several

well-defined barriers which prevent individuals from taking advantage of educational opportunity beyond the high school, institutions offering education at this level should be made available to as many persons as possible through elimination of these barriers.

3. Principle of support. Funds to support post high school education should come from where the money is located and expended where the students are being educated.

The Commission suggested certain required characteristics of a sound plan for financing a community college. The plan should provide for joint responsibility for support and enough basic funds to support a reasonably good program in each college. Reliance on tuition fees for support should be de-emphasized and financing should be based on a formula which provides for all elements of necessary cost of a good program. The plan should contribute to stability in operation by providing a predictable income from year to year, by making provision for capital outlay, and providing access to borrowed funds for capital outlay. Fiscal control should be shared by the state and the institution, and its program should not be dependent upon gifts and donations. A provision should be included that would induce areas of the state not directly participating in the support of the community college to make contributions based on the number of their own students attending community colleges.

The Commission made a suggestion for the adoption of six basic criteria relative to the control of the community college. First, the control pattern ought to be such that

the institution is recognized as an entity with a character which it must achieve through the pursuit of goals. Second, the legal entity which directs the community college need not necessarily procure all or even most of its tax money from within itself. Third, the controlling body of the community college should be as close as possible to the people served by that institution. Fourth, the governing agencies of the community colleges must not have so many additional responsibilities that the time and energy available for the direction of the community college are beyond the realm of probability. Fifth, the controlling agency of the community college should be one which can have no conflict of interest between the community college and any other institution for which it is responsible. Sixth, any state plan for community colleges should be just that--a state plan. Each separate institution should maintain its own individuality. These criteria, in actuality, are principles of control.

With respect to legally financing the public community college, Hillway (26) concluded that in the states where adequate financial assistance was provided by the states to the community colleges through a state-wide plan of regular support, the two-year community college program developed fairly rapidly. Contrasting with this were those states where the burden of support was left to the local districts in which development of the community college program was found to be much slower. He deducted from this that a

satisfactory system of community colleges could not be developed without state aid.

Martorana (43), in studying the problem in New Mexico, recommended a plan for financing the operation of the new community colleges in that state on the basis of a minimum foundation figure per student per year as the base amount to be used as a formula for state and local financing. This would take into account the principle of equilization.

Medsker (45) reported that only three of the seventeen states included in his study had developed any plan concerned with equalization. It appeared that several of the states had more or less rigid amounts quoted in their basis for aid but which allowed for little if any flexibility necessary in inflationary times or when capital needs arose. Some states also imposed limitations such that only a portion of the overall college program offering courses for college academic credit were subject to state aid.

Hillway (26) found that tuition and student fees are factors which limited enrollment. He noted that many educators and other leaders agreed that the plan for increasing tuition in public institutions was a step in the wrong direction. He concluded that the services of a community college should be offered free or within a price range well within the reach of every student, lest the financial barrier prohibit the declared function of the community college.

Martorana (43) found that the two-year community colleges which had local tax supporting districts tended to keep the student costs at a minimum. In this type of institution most of the income was obtained from local taxes (over 50 percent) and from state aid (a little over 25 percent) and only about ten percent of the cost of operation from tuition. He found that significant amounts of revenue had been obtained from endowments, organized college activities, property sales, federal government funds, etc.

Contrasted with this were the state two-year colleges that received their financial aid from state sources (about 50 percent of them), from auxiliary enterprises (such as residence halls, dining halls, cafeterias, faculty housing, etc.) and from student tuition. Martorana reported that, when all the public two-year colleges were considered, local taxes provided 27 percent, state aid 34 percent, and tuition 12 percent of the total revenue.

Analysis of Growth of Community Colleges in the United States

In 1900 there were eight community colleges with a total enrollment of 100 students. In 1960-61 there were 678 community colleges with a total full-time enrollment of 748,619. This figure represented a decrease in enrollment over the previous year, making it the seventh time this has happened, twice from the most recent reports. An examination of Table 2 will disclose the enrollment pattern in the

community colleges from 1900 to 1960.

Most of the community colleges founded between 1900 and 1920 were private institutions. (16) During succeeding years, however, public institutions had become predominant. The increase in the enrollment of public community colleges over private community colleges had been especially pronounced in recent years. The peak period for establishing community colleges was from 1925 to 1929. During the 1930's two hundred four institutions were established which probably indicated a need for low-cost education in close proximity to the homes of students. World War II, however, brought the establishment of new community colleges almost to a halt. The period immediately following the war saw the establishment of many new institutions but at a reduced pace from the era of the 1920's and the 1930's.

In 1921-22 there were 207 community colleges. About one-third of these were tax-supported, but at the same time this group accounted for more than one-half of the total enrollment of over 16,000 students. In 1938-39 the total number of community colleges had increased to 575. Of these, the private institutions were still a majority with a total number of 317 as compared to 258 public community colleges. More than 71 percent of the students who were enrolled in community colleges were enrolled in the public institutions, however. By 1957-58 with the number of community colleges reaching 667, 58.6 percent or 391 were public and 276 were

Table 2. Number of community colleges and enrollments 1900-1961

School Year	Number of Colleges	Enrollment	Percentage Increase in Enrollment
1900-01	8	100	-
1915-16	74	2,163	-
1921-22	207	16,031	-
1926-27	408	50,529	-
1929-30	436	74,088	9.6
1930-31	469	97,631	24.2
1931-32	493	96,555	- 1.1
1934-35	518	122,311	13.5
1935-36	528	129,106	5.6
1936-37	553	136,623	5.8
1937-38	556	155,588	13.9
1938-39	575	196,710	26.4
1939-40	610	236,162	20.1
1940-41	627	267,406	13.2
1941-42	624	314,349	17.6
1942-43	586	325,151	3.4
1943-44	584	249,788	-23.2
1944-45	591	251,290	0.6
1945-56	648	294,475	17.2
1946-47	663	455,048	54.5
1947-48	651	500,536	10.1
1948-49	648	465,815	- 6.9
1949-50	634	562,786	17.2
1950-51	597	579,475	2.8
1951-52	593	572,193	- 1.3
1952-53	594	560,732	- 2.0
1953-54	598	622,864	11.1
1954-55	596	696,321	11.8
1955-56	635	765,551	10.0
1956-57	652	869,720	11.36
1957-58	667	892,642	2.56
1958-59	677	905,062	1.39
1959-60	663	816,071	- 9.83
1960-61	678	748,619	- 8.27

private. At that time 90 percent of the total enrollment was in the public institutions.

Medsker (45) found that the total enrollment of students in all types of community colleges accounted for 12 percent of the total enrollment of degree-credit students during the fall semester of 1958 and 24 percent of the degree-credit students who were enrolled in college for the first time. In terms of enrollment in public higher education only, the two-year colleges enrolled 17 percent of the total college enrollment and 31 percent of the students enrolled for the first time. California, Colorado, Illinois, Michigan, Mississippi, Oklahoma, and Texas were especially high in the number of community college students when compared with the total degree-credit student population.

Data in Table 3 show the distribution of the community colleges in the United States by size of enrollment. Both public and private community colleges are listed and it should be noted that only 12 community colleges, all public, have exceptionally large enrollments. It can be observed that none of the private community colleges had an enrollment of over 4000 students. At the same time, there were 44 public community colleges that had enrollments exceeding that figure. Iowa had only one institution, Emmetsburg, in the category of enrollment of 1-99. However, 8 Iowa community colleges were in the second category of 100-199. There were two community colleges in Iowa which came under the 300-399

Table 3. Distribution of size of enrollment in community colleges (as of October, 1960)

Enrollment	Public	Private	Total
1- 99	27	52	79
100- 199	34	62	96
200- 299	41	45	86
300- 399	27	39	66
400- 499	30	17	47
500- 599	29	14	43
600- 699	30	9	39
700- 799	19	5	24
800- 899	9	8	17
900- 999	11	1	12
1000-1999	64	18	82
2000-2999	27	1	28
3000-3999	13	2	15
4000-4999	9	-	9
5000-5999	8	-	8
6000-6999	6	-	6
7000-7999	4	-	4
8000-8999	5	-	5
Over 9000	12	-	12
Totals	405	273	678

grouping. The largest in the state, Mason City, with a 1962 enrollment of 756, ranked in the 700-799 category of which there were only 18 other public community colleges in the United States of similar size.

Community College Transfer Students

Medsker (45) reported a study that was conducted at the Center for the Study of Higher Education at the University of California in which an investigation was made of 10,000 June, 1959, high school graduates in 16 communities to determine the factors affecting the graduates' immediate entry into college. Over ninety percent of the graduates in the sample were accounted for in the fall. Of the total group 41 percent (47 percent of the men and 35 percent of the women) entered college. Six percent of the group entered some type of special school (vocational, technical, etc.) while 47 percent did not enter college. Six percent were not classified. About 25 percent of the men and 20 percent of the women entered a public college. About one-third of the graduates entered full time employment. Two-thirds of the graduates from the top 20 percent of the class entered college; about one-fourth of those in the lowest 20 percent entered. Fewer women of high ability went to college than did men. One-fourth of those in the top twenty percent did not continue their education.

In this study of 16 communities, all but two Midwestern,

Medsker found the number of high school graduates going on to college varied considerably according to the types of colleges located in the community. The communities in which the highest percent of students entered college were those in which community colleges were located. The communities with state colleges were next in order. The one metropolitan community with multiple college opportunities in the sample ranked third in college-going while communities with extension centers and those with no college were almost equal. In this last category, a greater percent of the students entered special schools than in the others.

In areas with community colleges, a higher percent of high ability students entered college than was true in communities with other types of colleges. In Bakersfield, California, where a tuition-free community college is located, nearly 44 percent of more than 1100 graduates entered community college. In Hutchinson, Kansas, 49 percent of 280 graduates entered the local community college.

Hillway, (26) in 1943, reported the ACE scores received by freshmen in four year colleges, community colleges, and teachers colleges. Community college transfer students ranked slightly lower in scholastic aptitude than did the students in the four year colleges, but they were considerably higher than those who were enrolled in teachers colleges. Investigations by Cavan (8) and Bolton (6) in 1933, and Thurstone, Thurston, and Adkins (61) supported this

conclusion.

Eells (12) found that students who had graduated from "terminal courses" in community college did well in later college and university work. Of 1177 students transferring from terminal courses, Eells reported that 46 percent succeeded in obtaining better than average grades in the universities and only 16 percent received grades below average.

De Ritter (10), in summarizing the statistics compiled by Congdon, Eels, Sammartino, and Pendorf, showed that community college transfer students actually demonstrated superiority over comparable groups of students who had entered four-year colleges and universities as freshmen.

Medsker (45) showed that the aptitude of transfer students was greater by several points than that of terminal students in the community colleges. In other studies made in California this fact was borne out. Medsker also noted that many of the terminal students were capable of becoming good transfer students. He observed that the community colleges which enrolled superior transfer students also enrolled superior terminal students.

Seashore (54) reported that the median score on the College Qualification Test (CQT) for community college freshmen was near the 25th percentile for senior college freshmen. He found that about 24 percent of community college men and 20 percent of community college women were above the

respective medians for freshmen for four-year institutions. He noted that there was considerable overlap in scores and concluded that many community college students achieved scores which would have been considered superior in senior colleges and that many low-scoring senior college freshmen would also have rated low in community colleges. He found that the difference in favor of the four-year student was slightly greater for women than for men.

Hagie (21) conducted a comparative study of Washington community college students with students in lower divisions of colleges having only under-graduate programs. The purpose of the study was to check the validity of claims that were usually made with respect to community college students. The general pattern of analysis was to test five separate hypotheses, one each from claims commonly made with respect to community college students. They were:

1. Community college students represent all socio-economic classes more adequately than do students in the lower divisions of four-year undergraduate colleges.
2. Significantly more community college students than lower division four-year undergraduate college students are preparing for semi-professional occupations requiring only two years of college work.
3. Significantly more students are attending community

colleges because of low costs than are attending the first two years of four-year undergraduate colleges for this reason.

4. More students attending community colleges from within a smaller geographic radius than do students in the first two years of four-year undergraduate colleges.
5. Community college students, as a group, have lower academic aptitude than students in the lower divisions of four-year undergraduate colleges.

The conclusions that were reached were based primarily on analysis of literature in the field. Hagie concluded that community college students represent all socio-economic classes more adequately than do students in the lower divisions of four-year undergraduate colleges. He found that significantly more community college students than lower division four-year college students were preparing for semi-professional occupations requiring only two years of college work. Significantly more students were attending community colleges because of low cost than were attending lower divisions of four-year colleges and more students attending community colleges came from a smaller radius than lower division of four-year college students. With respect to the claim made for lower academic aptitude of community college students, Hagie noted that evidence provided by the review of literature suggested that the claim of lesser

academic aptitude for community college students could be supported. However, he reported that the studies included in the literature were not based on random selection and therefore he was unable to determine whether they were free from bias. As a result no conclusions were made on that hypothesis.

Medsker (45) found that even though transfer students in most institutions earned grade points comparable to native students, their record of retention and obtaining baccalaureate degrees was poor. He noted, however, there were reasons why transfer students dropped out of college other than poor academic records. It was reasoned that the lower socio-economic background of many college students may have meant that motivational and financial factors contributed to the high attrition rate. The student who attended community college because it was near his home and less expensive to him may have found after transfer to a four-year institution that it was difficult to meet the higher costs in a four-year institution.

Medsker also reasoned that social maladjustment may have been another factor that caused some community college transfers to withdraw. He assumed that most community colleges do not do enough to prepare the student for social relations in the four-year college. Added to this is the fact that very little was done at the four-year college to orient the transfer students, especially when compared with orientation

programs for freshmen students.

In 1958 the registrars at the three state senior colleges, instituted a study (41) of all transfers into The Iowa State University, The State University of Iowa, and The State College of Iowa. Included in this study were those students who transferred to the three state institutions between June, 1953, and March, 1955. Students were excluded if they had failed to attend a previous college for at least one quarter or semester. The number of students in the study was 1688. Many of the students had attended more than one institution but were considered to be transfers from the previous college at which they had received the most credit. Seven hundred sixty-three students had transferred from private senior colleges, 460 from public senior colleges, 153 from private junior colleges, and 312 from public community colleges. At the time of transfer, the mean academic average for those transferring from private senior colleges was 2.38; from public senior colleges, 2.19; from private junior colleges, 2.56; and from public community colleges, 2.52. At the time of the study, the mean academic cumulative average was 2.27 for the private senior colleges, 2.38 for the public senior colleges, 2.26 for the private junior colleges, and 2.23 for public community colleges. It should be noted that at the time of transfer, students from the public community colleges had the second highest academic average but after having transferred to one of the three state senior institutions,

the mean academic average was the lowest.

Not all of the students had opportunity to graduate and, as a result, in the fall of 1957, there were a total of 244 students still enrolled. Thirty-eight were from the public community colleges, which represented 12 percent of the total number of public community college transferees. Of the total group 674 received baccalaureate degrees and of these 129 were public community college transferees. This represented 41 percent of the original public community college transfer group. Therefore a total of 53 percent of the original public community college transfer group had either received degrees or were currently enrolled. This compared with 54 percent for the private junior colleges, 54 percent for the public senior colleges and 54 percent for the private senior colleges.

At Iowa State University an anlysis of the study revealed that 23.9 percent of the students transferred from the public community colleges, 13.2 percent from private junior colleges, 17.1 percent from public senior colleges, and 45.9 percent from private senior colleges. In this study only those coming from the public senior colleges showed a higher mean average at Iowa State University than the transfer grade point average earned at the previous institution. The public junior college group showed the greatest loss. The percent of those actually receiving degrees was highest in the private junior college group and the public community

college group was second highest.

The mean academic average at the time of transfer from the public community college was 2.73 which represented the highest transfer average of any of the groups but the mean Iowa State University average was 2.20 which was the lowest of the four groups. In other words, the transfers from the public community colleges sustained a greater loss in scholastic average at Iowa State University than any of the four groups.

Of those transferring to the State University of Iowa, 46.6 percent received degrees and a number of others were still enrolled at the institution. The public community college students enrolled at the State University of Iowa had the lowest grade point average (2.20) at the time of transfer of any of the four groups but the same ranking held true for the SUI academic average which was 2.06.

Of those who transferred to the State College of Iowa, 20 percent came from public community colleges, eight percent came from private junior colleges, 24 percent came from Iowa four-year private colleges, 28 percent came from the other two state senior institutions and 20 percent came from out-of-state colleges. The mean academic average at transfer for public community college students was the highest of the four groups with 2.63, but the mean SCI average was 2.44, second only to those transfer from the public senior colleges. The public community college group also

was the highest in the number of degrees received with a total of 46 percent of the original group.

General Appraisals of Community Colleges in the United States

Lindsay, (39) in reporting the growth of community colleges in California, noted that no public institution in that state founded as a "district" community college had failed to survive, but he noted that of some 57 founded in high school districts, 21 had operated continuously since establishment and 12 had been transformed into "district" community colleges, six were discontinued but reestablished later, 18 were closed. From this data, Lindsay drew the conclusion that in order for the junior colleges to do an adequate job, they must be given adequate financial support and have a sufficient number of students. Larger districts can provide these two necessary elements.

Fields (16) analyzed the types of community colleges listed in the Junior College Directory for 1958-59. Six hundred seventy-seven junior colleges were listed for the United States and its possessions. Of the public colleges, ninety were labeled "state" or "territorial"; 75 were labeled "county" or "joint county"; 91 were labeled "local"; 142 were listed as "district". One was listed as federal and no information was given for one college. If one considered "county", "local", and "district" as local, this indicated that 77.2 percent of the public junior colleges were

responsible to a local governing body. Between one-fifth and one-fourth (22.8 percent) were sponsored by a state, territorial, or the federal government. In some of the cases there was a cooperative agreement between the state and local groups.

Fields also reported that the public community colleges were located in greater numbers in just a few states. Fifteen states with ten or more public community colleges during the 1958-59 school year accounted for 313 of the 400 public two-year institutions. These states were: California, Florida, Illinois, Indiana, Iowa, Kansas, Maryland, Michigan, Mississippi, New York, Oklahoma, Pennsylvania, Texas, Washington, and Wisconsin. California and Texas had developed by far the greatest number of public junior colleges and continue to establish them. Washington, Oklahoma, Iowa, Kansas, Illinois, Michigan, and Mississippi established colleges in the early years of the movement and have established a few since then but have not experienced the recent rapid growth that has taken place in some of the other states. Generally speaking, the typical two-year college in all these states is the local institution. The developments in Maryland and Florida were due primarily to the post war establishment of colleges by county school systems. In the state of New York several community colleges established during the 1950's composed a portion of the state-coordinated two-year college segment of the State University of New York. In Wisconsin, Indiana, and Pennsylvania, university extension

or off-campus centers constituted the predominant type of institution. Wisconsin also had a number of county teachers' colleges which were listed in the Junior College Directory.

The public community colleges on the average had larger enrollments than the private. The mean enrollment of the public junior colleges, primarily because of the 80 institutions with enrollments over 2000, was just over 2000. The average enrollment of the private junior colleges was slightly more than 350. In 1955-56 Fields identified the very small public community colleges which enrolled a total student group of less than 100 and also those which enrolled less than 100 freshmen and sophomores, even though the enrollment of special students and adults might make the total enrollments more. He found a total of 37 colleges. Nine were university junior college divisions off-campus or extension centers; two were state institutes; three were new colleges just being started; one was a four-year seminary type junior college, leaving 22 local, district, or county institutions. Of these 22, seven were in Iowa, three in Illinois and Oklahoma, two each in Montana and Minnesota, one each in California, Maryland, Massachusetts, Missouri, North Dakota, Oregon and Texas. In every case he found a local college's existence made possible by association with the public high school.

Henderson (24) found that one-half the students reported as being enrolled in the community colleges in the United

States were regular day students and approximately one-half were special students and adults. He reported that each state survey commission had given a great deal of attention to the theory of the community college and its potential within the various states. Invariably the resultant report was in favor of the growth of the community college concept.

Henderson reported that California, with the largest amount of experience with public community colleges, had proposed that there should be a special board to coordinate the work of the community colleges in the state. California had a Board of Regents which controlled the State University system and a State Board of Education which administered the state colleges. He proposed that there should be a third board to coordinate the work of the community college. The three boards should select an inter-board committee for the purpose of coordination of the entire college program. He found that Florida had set up a state board for community colleges. In other states the state board of public instruction had assumed the responsibility but Henderson viewed this as an inadequate provision inasmuch as the state superintendent of public instruction and his staff had had very little experience in education on this level.

Williams (63) sent 149 questionnaires to public junior college administrators and selected authorities in the community college field throughout the United States. The basis upon which the administrators were selected included

the size of enrollment of the institution in which they served, the extent of their program and the geographic location of the institution. The selected authorities were chosen according to their experience and contributions to the community college field. They included members of state departments of education, members of college instructional staffs, and persons from the U. S. Office of Education. One hundred nineteen questionnaires were returned and the following recommendations were gleaned:

1. The minimum population of a community college district should be about 40,000.
2. The minimum number of post-secondary 18-21 year old potential students in the district should be 1,000.
3. The minimum assessed property valuation in the community college district should be $40,000,000 with an average of .25 mills.
4. The minimum total school population in the 9th through 12th grades in the proposed community college district should be 2000.
5. The community college district boundary should be based upon the county unit wherever possible.
6. Each district community college should receive state aid but controlled and operated within the established district.
7. A petition of at least five percent of the eligible voters of the community college district should be

required to be presented to the state governing authority in order to initiate action toward the establishment of a community college.

8. The authority to petition a state governing agency for the establishment of a community college district should lie within any interested citizen's group.

The same group of respondents submitted their answers with respect to organization and administration of the community college program. A majority reported that the community college should be under the administration of a local schoolboard which should be elected at large from the district. The state controlling and accrediting agency should be the state department of education. They concluded that the community college curriculum should consist of courses of study which make provisions for college transfer, semi-professional and technical offerings, vocational courses, general adult offerings, and remedial courses.

The financing of the community college should be done by a coordination of state and local taxes and student tuition. State funds for operating costs should be provided through a foundation program, and operating costs should be proportioned to one-third state, one-third local, and one-third tuition. For capital outlay it was recommended that monies be provided by state aid and post-secondary institution taxes, shared evenly. The power to submit proposals for capital improvements to a vote of the people

of a community college district should lie with the governing board of the community college. Community college students living in a given district in the state should be permitted to attend a community college in another district in the state if their home district does not offer adequate courses. The home district would reimburse the receiving district the amount of tuition. Students should not be expected to commute more than 30 miles or one hour's driving time. Paige (49) agreed with this recommendation for commuting distance.

Wood (64), found that the community college was democratizing higher education as the high school had democratized secondary education. The community college, he noted, was reaching individuals previously not touched by higher education and that its special function was to popularize higher education.

General Appraisals of Public Community Colleges in Iowa

In 1937 Love (40) surveyed the public community colleges in Iowa. In this study he analyzed the reports of the community colleges since their respective dates of origin, secured academic records of the graduates, administered a series of tests to the sophomore classes in each of the institutions, used a questionnaire to obtain information from graduates who did not continue their formal education beyond the community college level. He investigated the origin of the Intercollegiate Standing Committee in Iowa

(now the Iowa Committee on Secondary Schools and College Relations) and made an effort to determine the extent to which the junior colleges were adhering to the standards of this committee.

Love concluded that the community college should be a selective institution as far as transfers to four-year colleges was concerned. He found that approximately 50 percent of the graduates of the community colleges continued their formal education in senior colleges but that this fifty percent did not come from those earning higher grades in community colleges. The mean grade point average of transfer students was .17 grade points higher than the grade point average of the non-transfer graduates. He found that the quality of work done in the community college had little relation to the probability that the individual would or would not attend the senior college. He observed that the correlation between grades received in community college and those earned in senior college was only .60.

Love noted that the graduates of the Iowa public community colleges who did not continue their formal education had relatively little training for their entry occupations. The community colleges in the state were primarily university preparatory schools at the time of his investigation.

At this early date he recommended the creation of community college districts but he assumed that they would

be entirely separated from the local school districts with a certain amount of state control and state co-ordination. With respect to objectives of the community colleges, Love observed that the main objective had been to see their graduates succeed, in four-year institutions.

In 1955 Lagomarcino (37) completed his appraisal of the public community colleges of Iowa. He analyzed the historical background and philosophy of the community college movement and traced the development of the public community colleges in Iowa. He appraised several aspects of the present 16 public community colleges in Iowa and predicted the scholastic achievement of the two-year graduates of the Iowa public community colleges who matriculated at The State University of Iowa, The Iowa State University, and The State College of Iowa in the fall terms of 1950-1951, and 1952.

In addition to his appraisal of the community college, Lagomarcino studied a total of 257 community college graduates who matriculated in the three state institutions in the fall terms of 1950, 1951, and 1952. Of the 257 students who transferred, 175 survived. The survival rate was highest at the State College of Iowa.

Using the academic records of the 257 students who graduated from the public community colleges in Iowa during the years 1950, 1951, and 1952, Lagomarcino treated the data statistically using analysis of multiple regression, biserial correlation and discriminant analysis. He discovered that

175 (68.1 percent) students had either graduated or were enrolled in one of the three public senior institutions.

The community college transfer students in all of the three state institutions earned lower academic grade points than they had achieved in community college. Accumulative college grade point average of those in the survival group was .49 of a point lower than the community college average. An even greater disparity was apparent in the academic grade point of those in the total attrition group, a difference of .66 of a point was observed.

Lagomarcino found that the junior college student did about as well academically in community college as he did in high school. He observed that community college students as a group received lower grade points in senior colleges than in community colleges. Some of the differences could be attributed to variation in marking student achievement.

He found that those students who had a 2.0 grade point in community college had a 60 percent chance of being graduated from the State University of Iowa, 53 percent from Iowa State University and 73 percent from the State College of Iowa. He found that it was the major function of the public community colleges in Iowa to offer the first two years of university parallel courses.

Medsker (45) noted that Iowa had long been known as a state with many small community colleges. He found that the population of the districts maintaining community colleges

varied from 4500 to 35,000 and seven of the districts had fewer than 10,000 residents. In 1957 the enrollments of the community colleges ranged from 39 to 419; thirteen community colleges enrolled fewer than 200 students. He found that only three colleges had separate buildings and that even they shared some facilities with the local high schools. During the 1956-57 school year, 16 percent of the teachers taught full time in the community colleges, their other efforts being directed toward high school teaching. All but one offered some non-credit adult courses at night and in three of the institutions enrollment in the night program had a tendency to run higher than 1000 students per semester. He also observed that several of the colleges made their facilities and staff available to four year colleges for extension work.

Medsker noted that the "history of Iowa junior colleges is marked by slow and painful struggle". (45, p. 232) With respect to the future, Medsker said that state aid by itself could not solve all the problems that confront Iowa in its community college program because of the size of the colleges and the weak curricular offerings. He considered the population distribution in Iowa as presenting one of the major problems. In 1957 there were 11 cities of 25,000 population or more in Iowa but only five of them maintained a community college. He also found that in most instances, the community colleges in the state offered a straight ("and small scale")

university parallel program.

Medsker suggested two measures that would make larger districts possible. First, he suggested a voluntary cooperative effort by contiguous school districts in the maintenance of a community college. The other would be legislation permitting the creation of separate community college districts. He visualized a serious problem from the standpoint of commuting distances for some students, particularly during the winter months.

Medsker made no analysis of local school districts in the state and offered no suggestions as to the nature of enlargement for better services. He did not examine local community colleges.

Proposed Plans for Community College Organization in Iowa

In 1954 Starrak and Hughes (57) revised a previous work of theirs (58) relating to the development of community colleges in the United States. They used the state of Iowa as an example of what a state might do in developing community colleges. Their plan called for the establishment of 35 institutions to be known as "community colleges". Each college would be located in a district legally established and called a community college district. The size of the areas to be served by each of these new institutions was to be determined by (1) a sufficient number of youth to provide a student body so that the cost would be reasonably

economical, and (2) the district should be of sufficient size to provide its share of financial support necessary without causing undue financial burden. They suggested a minimum enrollment of 300 students.

Starrak and Hughes contended that the financial support of the community colleges should come from both state and local sources. It was their recommendation that the state contribute $2500.00 per year to each college and $150.00 per year per student in average daily attendance. The remainder of the support was to be borne by each community district through a general property tax.

The community college, they said, should be of service to three basic groups: (1) those who plan to transfer to a senior institution; (2) those who wish to increase their general culture and social and civic competence; (3) those who wish a terminal-type education in vocational-technical areas.

A plan was proposed that called for the implementation of the following standards: (1) the largest population center of the proposed district should serve as the location of the college; (2) the attendance center should be so located that no student would have to travel more than thirty miles (one way) to attend the college; (3) there should be a total high school enrollment of at least 1,500 and a yearly graduation group of 400 students from the high schools within the proposed district; (4) the assessed property

valuation in the district should be at least $30,000,000.

A study of the higher education in Iowa was conducted under the direction of Raymond C. Gibson of the University of Indiana in 1959-60. (17) This study, consisting of four parts, was instituted under a mandate of the 58th General Assembly in an effort to assess the educational needs of the state of Iowa and the contributions that could be made by the community colleges of the state.

Study Number IV (17) was given the title, "The Junior Colleges of Iowa". This study included the sixteen public junior and community colleges in Iowa for the purpose of gathering data relating to desirable community college functions. Gibson's study was not an actual evaluation of each college as such, but only insofar as any single college provided information about the current operation of Iowa community colleges.

The study was made by (1) analyzing the literature of the community college movement in the nation and in Iowa, (2) reviewing the practices in community college education in selected states recognized as having outstanding programs, (3) deriving principles of sound community college education from theory and practices as the basis of criteria for judging the effectiveness of a state community college program, (4) structural interviewing with the deans of the Iowa public community colleges relative to the performance of the functions of the public community college, (5) reviewing of

catalogs of each college, (6) summarizing pertinent data supplied by the State Consultant for Junior Colleges in the Department of Public Instruction, and (7) drawing of conclusions and making recommendations regarding the development and needs of a program of community college education in Iowa.

The Gibson report included recommendations for improving the structure of higher education in Iowa. It was recommended that regional community colleges be established in all areas where there is a potential of 500 students within commuting distance. No specific locations for community colleges were suggested. These proposed colleges would have three basic functions: (1) general education and college preparatory, (2) inservice education of both a general and a technical nature for adults in the community college areas and, (3) terminal general and technical education leading to a two-year degree. Local authority would be vested in a seven man board which would have authority for determining local policy, for setting and levying a community college tax (as limited by the state legislature), and for employing college personnel.

Gibson recommended charging the same tuition as the three state institutions, with the local community college district and the state government paying the remainder of the cost of operation. Policy planning, organization, and co-ordination should be left to the State Board of Public

Instruction and the State Department of Public Instruction. It was recommended that an Advisory Community College Commission be organized that would be composed of the presidents of the three state educational institutions and three presidents of private colleges. A Community College Director would be established in the State Department of Public Instruction. Development of the state-wide community college program would take place over a two year period. Recommendations should be studied, formulated and submitted to the 1963 General Assembly.

The Department of Public Instruction of the State of Iowa, followed a mandate (Appendix A) of the Iowa House of Representatives of the Fifty-Ninth General Assembly, (House Resolution 6), ". . . directing the department of public instruction to prepare a statewide plan for the development of public area community colleges . . .". A seven member departmental committee composed of members from various divisions of the Department was appointed to work with David Bechtel, director of the study. In addition, a State Committee on Public Area Community Colleges, composed of individuals from industry, labor, agriculture, education and legislature, was also selected. House Resolution 6 directed the study (34) toward the following areas:

1. The criteria for the establishment of community colleges
2. A plan was to be submitted for the organization,

legal control, supervision and financial support of the colleges

3. An identification of the regional location of such colleges
4. The functions that were to be performed by the community colleges in offering
   a. the first two years of college parallel work including pre-professional work
   b. vocational and technical education
   c. programs for inservice training and the re-training of workers
   d. guidance and counseling services designed to assist local students in planning their educational and occupational careers
   e. community services.
5. Relationships of community colleges with other parts of the educational system in the state.

The Department of Public Instruction identified seventeen recommendations (34, p. 7-8) as a result of the study. They were:

> Recommendation 1. The State of Iowa should provide a legal framework for the establishment of a statewide system of area-controlled community colleges.
>
> Recommendation 2. The State of Iowa should establish area education districts whose elected lay boards would replace existing county school boards and assume educational functions intermediate between the state and local districts and, when authorized by vote of the people in such districts, would establish and operate public area community colleges.

Recommendation 3. The Iowa State Board of Public Instruction should be designated as the state agency responsible for the orderly development and supervision of public area community colleges.

Recommendation 4. The State Board of Public Instruction should be authorized to establish an advisory committee on community college education comprised of representatives of public and private two year and four year colleges and universities, such a committee to be concerned with problems of integrating community college education with other aspects of higher education.

Recommendation 5. Before an election for the establishment of a public area community college may be held in any area education district, the proposition should have the prior approval of the State Board of Public Instruction based on the results of careful studies by the area education district which have preceded application for such approval.

Recommendation 6. Existing provisions of the Iowa code relating to the establishment of community or junior colleges should be repealed, but approved institutions of this type in operation on the effective date of the legislation should be permitted to continue under the existing sections governing their control, supervision, and support.

Recommendation 7. Iowa public area community colleges should offer a comprehensive educational program for persons of post high school age but recognizing that there should be provision for high school age pupils who have educational needs which cannot otherwise be met.

Recommendation 8. The educational offerings of the Iowa public area community colleges should be concerned with programs terminating after two years of study or less, but some curricular offerings of a technical nature may require more than two years for completion.

Recommendation 9. The statewide system of public area community colleges should provide (within the system as a whole and to the greatest extent possible within each college) educational opportunities and services in each of the following areas; but not necessarily limited thereto:

a. The first two years of regular college work including pre-professional education

b. Vocational and technical education

c. Programs for inservice training and retraining of workers

d. Programs for high school completion for students of post high school age.

e. Student personnel services

f. Community services

Recommendation 10. Programs and services offered by individual Iowa public area community colleges should be determined by local surveys of the educational and service needs of the area education districts with consideration also given to the needs of the state and of the nation.

Recommendation 11. Individuals residing in an area education district, which either does not operate a public area community college or does not offer in its college a program meeting their specific occupational goals, should be entitled to attend an area community college in another area education district of the state, in which case the sending district should be required to reimburse the receiving district for the actual per-student cost incurred by the receiving district in educating its resident students.

Recommendation 12. When a public area community college is operated by an area education district, such districts should assume the reponsibility for capital outlay, and the current operating expenditures of the college should be shared by the state and the district in proportions to be determined from time to time by the General Assembly and incorporated in the foundation program when adopted by legislative action.

Recommendation 13. The total cost to individuals attending public area community college should be kept on a level so as not to discourage students of low income families from attending.

Recommendation 14. In an area education district offering community college education the administrative officer of the college should be designated as community college president and he should be responsible to the superintendent of the area education district.

Recommendation 15. Criteria for establishing area education districts should be the same as those criteria for adequacy of public area community colleges with consideration being given to the following items:

a. Recognition is taken of the cultural, social, and economic "community characteristics" existing in an area or region.

b. The capability of establishing a single administrative structure for its public area community college with its attendance center or centers located so as to be within one hour's driving time of the majority of the students to be served.

c. A minimum area assessed taxable valuation of $150,000,000.

d. A minimum area high school enrollment of 5,000 public, private, and parochial pupils grades nine through twelve.

Recommendation 16. If a public area community college is established in an area education district in which an approved public community or junior college is operating, the local district operating such an institution should be reimbursed for the current value of its capital investment allocated to separate community college facilities provided said institution discontinues its operation and the local district has no other local educational need for such facilities.

Recommendation 17. The area education district board should be required to employ an area superintendent who, in addition to having general administrative jurisdiction over the public area community college president, should exercise educational and administrative leadership in providing cooperatively agreed upon services to local school systems located within the boundaries of the area district.

The study committee under Bechtel did not attempt to develop criteria for establishing community colleges. The concern of the committee was the development of criteria for establishing community college districts or areas. It was the conclusion of the committee that House Resolution 6 did not mandate the establishment of community colleges. Therefore, the study committee attempted to create a plan that

identified areas or regions that were adequate to support a comprehensive community college program, but at the same time, placed the authority for establishing community colleges with the local districts. The two basic criteria for determining the adequacy of an area or district centered around the district's potential to provide human and financial resources to support the educational program. The committee concluded that the college enrollment potential at any one district should be at least 500 students. This would represent the minimum enrollment figure and it would be desirable that the potential would be nearer 1000 students. To comply with this criterion, the committee concluded that there must be at least 5,000 students enrolled in public, private, and parochial schools in grades nine through twelve. This would insure the enrollment of at least 500 community college students and supply the potential for a possible 1,000 students.

With respect to financial resources, it was decided that the total area education district must have an assessed valuation of $150,000,000 to adequately support the educational program. The committee set the following formula (34, p. 27) for providing and operating a community college of 1,000 students.

Operating Income from Students and State Aid

Student Tuition ($200 X 1,000)	$200,000
State Aid ($300 X 1,000)	300,000
	$500,000

Operating Income from the Area Education District	500,000
Capital Outlay Income from the Area Education District	300,000
	$1,300,000

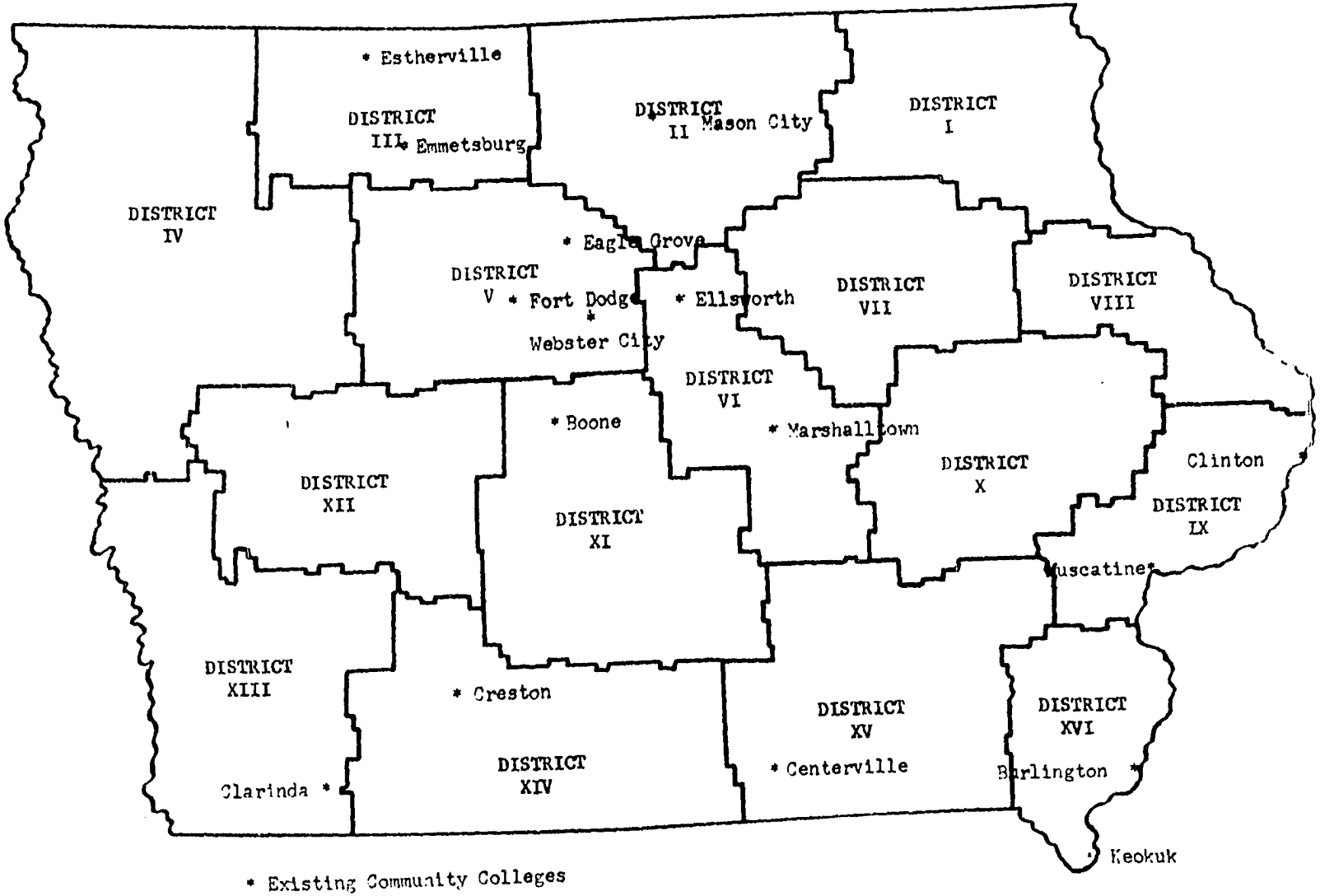
The Committee concluded that with this taxable evaluation base ($150,000,000), and the added revenue from tuition and state aid, an area district could provide a community college education to all post-high school youth and adults for less than a six-mill local levy. Initial capital outlay would be borne by the individual area education districts.

With respect to commuting distance for the majority of the students, it was decided that the community college center should be no more than one hour's driving time for the majority of the students to be served.

Based on these premises the state was divided into 16 proposed area education districts as shown in Figure 1. The present locations of the existing community colleges have been superimposed on this diagram to show where the current community college educational programs are now being executed and to identify some of the problems existent in reorganizing the post-high educational structure in the state.

The community college program as advocated by the study committee of the State Department of Public Instruction also took into consideration the need for vocational and technical education in Iowa. The type of organization proposed by the study committee could provide for these needs on a state-wide

Figure 1. Area Education Districts as proposed by the State Department of Public Instruction, showing location of present community colleges


* Estherville
DISTRICT III
* Emmetsburg
DISTRICT II
Mason City
DISTRICT I
DISTRICT IV
* Eagle Grove
DISTRICT V
* Fort Dodge
* Webster City
* Ellsworth
DISTRICT VII
DISTRICT VIII
DISTRICT VI
* Boone
* Marshalltown
DISTRICT XII
DISTRICT XI
DISTRICT X
Clinton
DISTRICT IX
Muscatine
DISTRICT XIII
* Creston
DISTRICT XIV
DISTRICT XV
* Centerville
DISTRICT XVI
Burlington
Clarinda *
Keokuk
* Existing Community Colleges

basis, both on a secondary level and on a post-high school level of instruction.

In summary, the literature revealed the changing concept of the community college in the United States and in Iowa. From a single-purpose junior college that was designed to offer college parallel courses, it has evolved into a multi-purpose community college offering a variety of educational opportunities for both youth and adults.

In many states, the community college concept was being re-evaluated and legislative action taken. In Iowa, proposals had been made for increasing the population and financial bases. There appeared to be general agreement that the institutions would be called upon to fulfill more educational needs than they have in the past. Community colleges were fulfilling the functions of providing college parallel programs, offering terminal education, providing vocational and technical education, and offering community services. The institutions varied widely, however, in their program offerings.

STATUS AND APPRAISAL OF THE PUBLIC COMMUNITY COLLEGES IN IOWA

Location of Public Community Colleges

Data in Figure 2 reveal the location of the public community colleges of Iowa. It should be noted that they are not evenly distributed throughout the state but are, in general, grouped in north central Iowa, along the eastern border, and along the southern border. Nine community colleges are located in a 20-county area in north central Iowa. At the present time there are sixteen community colleges in the state all of which are maintained by local districts.

The community college at Mason City, established in 1918, was the first in Iowa. With the exception of Clinton and Keokuk, all of the rest were established in the 1920-1930 period. Clinton Community College was founded in 1946 and Keokuk in 1953.

Three of the community colleges were located in cities of less than 5,000 population, five were located in cities with a population from 5,000 to 10,000, two were located in cities within the 10,000 to 20,000 category, three were located in cities with 20,000 to 30,000 population, and three institutions were located in cities with a population in excess of 30,000. As can be observed from Figure 2, several of the community colleges are located in close proximity to each other, but in no instance is there more

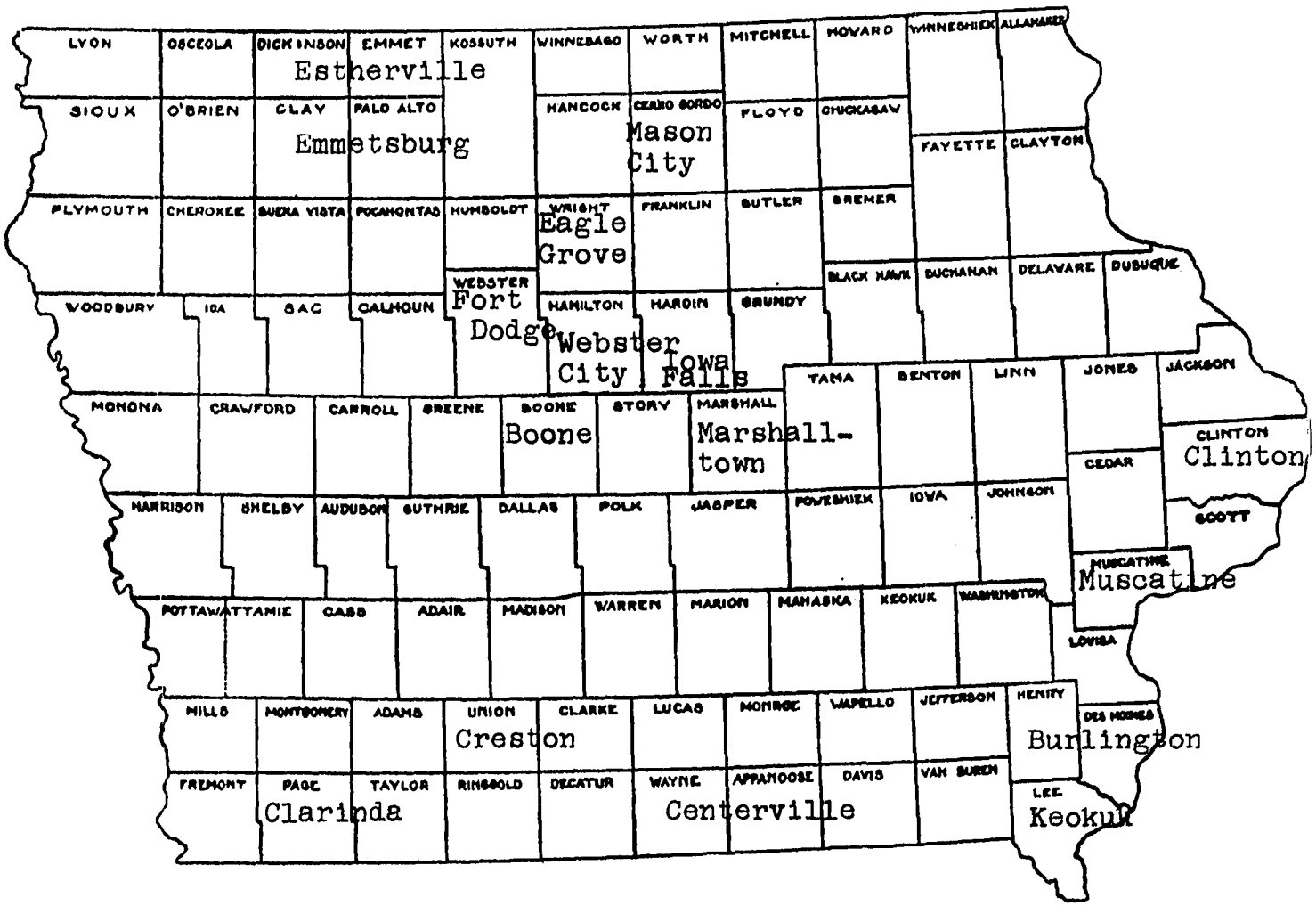


Figure 2. Location of Public Community Colleges of Iowa 1962-63

than one in a given county.

Based upon the plan for area community college districts proposed by the State Committee on Public Area Community Colleges, one may observe that there are instances where there would be more than one community college in a particular district. (See Figure 1.) Estherville and Emmetsburg are both located in proposed District III, Fort Dodge, Webster City, and Eagle Grove are located in District V, Iowa Falls and Marshalltown are both located in proposed District VI, Clinton and Muscatine are located in proposed District IX, while Burlington and Keokuk are both located in proposed District XVI.

Data in Table 4 show the present public community colleges in Iowa and the date on which they were established. Five of the sixteen had been either partially or totally discontinued for a period of time. The last community college established was that at Keokuk, founded in 1953. Of the thirty-five originally established, nineteen had been discontinued leaving a total, as of January 1, 1963, of sixteen public community colleges now functioning. These institutions had been established primarily through local initiative. No new community colleges had been established since 1953 because of a general understanding between the State Department of Public Instruction and school administrators in Iowa in which the need for further study on the topic was deemed necessary before any further organization action was taken.

Table 4. Present (1960) public community colleges in Iowa

Name	Location	County	Date Established
Boone Junior College	Boone	Boone	September, 1927
Burlington Community College	Burlington	Des Moines	September, 1920
Centerville Community College	Centerville	Appanoose	September, 1930
Clarinda Community College	Clarinda	Page	September, 1923
Clinton Junior College	Clinton	Clinton	September, 1946
Creston Community College	Creston	Union	September, 1926
Eagle Grove Junior College	Eagle Grove	Wright	September, 1928
Ellsworth College	Iowa Falls	Hardin	September, 1929
Emmetsburg Community College	Emmetsburg	Palo Alto	September, 1930
Estherville Junior College	Estherville	Emmet	September, 1924
Fort Dodge Community College	Fort Dodge	Webster	September, 1923
Keokuk Community College	Keokuk	Lee	September, 1953
Marshalltown Community College	Marshalltown	Marshall	September, 1927
Mason City Junior College	Mason City	Cerro Gordo	September, 1918
Muscatine Junior College	Muscatine	Muscatine	September, 1929
Webster City Junior College	Webster City	Hamilton	September, 1926

Seven of the institutions still employed the word "junior" in their titles and eight used the term "community college". The institution at Iowa Falls is known as Ellsworth College. The mean number of years of operation for the institutions was 33.9 years.

Analysis of the Curricula

The curricula of the sixteen public community colleges were classified for analysis in this study into twelve separate areas, so that comparisons could be made with Lagomarcino's (37) findings. Those areas were art, commerce, education, English and speech, engineering and industrial arts, foreign language, mathematics, music, physical education, psychology, science, and social studies. These twelve areas represented the course offerings and might be classified as university parallel courses. There were courses offered which did not carry college credit, such as those in adult education, but these were not listed.

In Table 5 are shown the number of courses and hours taught during the 1961-62 academic year. The semester hours were totalled on the basis of the hours of credit in each subject. Multiple sections were not included in this analysis. Even though a course was repeated the second semester, it was not included.

The total number of semester hours of different courses taught in the sixteen community colleges was 2034. The mean

Table 5. Number of different courses and hours taught, 1961-1962

Institution	Number of Courses Taught	Number of Hours Taught
Boone	28	98
Burlington	72	198
Centerville	25	77
Clarinda	39	133
Clinton	64	159
Creston	44	110
Eagle Grove	33	89
Ellsworth	46	117
Emmetsburg	26	75
Estherville	30	132
Fort Dodge	63	127
Keokuk	58	189
Marshalltown	42	124
Mason City	74	199
Muscatine	30	105
Webster City	32	102
Totals	706	2034

number of semester hours offered was 127.13. The greatest number of hours was taught by the Mason City Community College with a total of 199. The least number of hours was taught at

Emmetsburg with a total of 75.

The data in Table 6 show the curricular offerings by semester hours in subject areas, the composite number of hours for both semesters being included. Similar courses, offered both semesters, were included in this table.

The largest number of curricular offerings was in the area of science with a total of 708 semester hours being offered. Social science with 476 semester hours, mathematics with 446 semester hours, and business with 429 semester hours were next in order in the hours of academic credit offered. The total number of hours taught for the year was 3492.

Catalog course offerings in the 16 public community colleges are shown in Table 7. It should be noted that the catalog offerings are in excess of those courses actually taught. A comparison of Table 7 with Table 5 indicates the variation. Mason City had the largest number of catalog listings with a total of 159 different courses listed. Centerville had the smallest number with a total of 52 listings. The total number of catalog offerings was 1344.

Table 6. Curricula offerings by semester hours in subject areas (1961-62)

Community college	Art	Business	Education	English Journalism Speech	Engineering	Foreign Language
Boone	4	8	8	26	6	16
Burlington	0	30	10	26	20	28
Centerville	4	32	3	36	18	6
Clarinda	4	37	28	18	8	8
Clinton	8	26	11	20	12	14
Creston	3	30	10	26	6	0
Eagle Grove	6	26	10	18	16	8
Ellsworth	8	41	10	29	8	16
Emmetsburg	4	6	12	16	6	0
Estherville	2	16	9	10	0	16
Fort Dodge	6	45	6	22	8	16
Keokuk	6	25	18	22	10	6
Marshalltown	10	30	11	22	8	8
Mason City	4	32	13	32	12	34
Muscatine	3	9	8	16	11	16
Webster City	4	36	11	14	8	10
Totals	76	429	178	353	157	202

Table 6 (Continued)

Community college	Mathematics	Music	Physical Education	Psychology	Science	Social Science	Other	Totals
Boone	27	2	0	12	32	30	15	186
Burlington	32	18	8	9	57	32	0	270
Centerville	10	4	4	3	28	30	0	178
Clarinda	25	4	0	9	43	22	41	247
Clinton	28	10	8	3	24	17	6	187
Creston	25	5	0	6	20	33	4	168
Eagle Grove	22	8	7	12	32	21	2	188
Ellsworth	21	10	8	7	52	20	9	239
Emmetsburg	27	4	5	6	32	29	0	147
Estherville	29	3	0	6	40	43	6	180
Fort Dodge	20	13	0	15	44	36	0	231
Keokuk	29	8	0	6	50	36	10	226
Marshalltown	37	8	4	6	53	34	8	239
Mason City	62	39	0	21	129	40	41	459
Muscatine	31	3	0	6	38	33	0	174
Webster City	21	5	4	6	34	20	0	173
Totals	446	144	48	133	708	476	142	3492

Table 7. Number of catalog course offerings

Community College	Catalog Offerings
Boone	77
Burlington	105
Centerville	52
Clarinda	83
Clinton	76
Creston	62
Eagle Grove	125
Ellsworth	60
Emmetsburg	74
Estherville	56
Fort Dodge	98
Keokuk	81
Marshalltown	79
Mason City	159
Muscatine	80
Webster City	77
Total	1344

The university parallel curricula of the 16 two-year institutions offered during the 1961-1962 academic year are shown in Table 8. Semester hours were compiled on the basis of hours of credit actually taught in each subject area. Duplication of courses from one semester to the next was not included nor were multiple sections used in computing the total.

It may be noted that all of the community colleges except Boone, Keokuk, and Marshalltown taught courses in

education. Burlington, Clinton, Estherville, and Webster City taught no classes in art. All offered courses in engineering and industrial arts except Estherville and all offered foreign language except Creston and Emmetsburg. Centerville, at the time of the report, had no instructor in mathematics. All but three institutions offered work in music.

The specific courses under each of the broad headings may be observed in Tables 9 through 20. It should be noted, that in mathematics, some of the community colleges had set up an integrated program of algebra, trigonometry and analytical geometry for which 10 hours of credit was given.

Table 8. Curricula offerings by semester hours in subject areas

Institutions	Art	Commerce	Education	Engineering and Industrial Arts	English and Speech	Foreign Language
Boone	17	4	-	3	13	8
Burlington	-	24	7	6	16	28
Centerville	3	16	3	2	11	8
Clarinda	2	31	3	5	10	4
Clinton	-	18	7	18	14	14
Creston	3	34	5	6	14	-
Eagle Grove	4	14	7	7	8	8
Ellsworth	7	21	3	3	9	8
Emmetsburg	2	6	6	3	8	-
Estherville	-	21	3	-	14	8
Fort Dodge	3	21	3	4	15	8
Keokuk	9	18	-	14	18	8
Marshalltown	3	6	-	1	18	16
Mason City	2	15	6	21	26	14
Muscatine	3	3	1	9	9	8
Webster City	-	15	3	4	6	5
Total	58	267	57	106	209	145

Table 8 (Continued)

Institutions	Mathematics	Music	Physical Education	Psychology	Science	Social Science	Totals
Boone	10.333	2	NC	6	17	18	98.333
Burlington	17	14	6	3	45	32	198
Centerville	-	3	NC	-	4	27	77
Clarinda	10	-	8	6	20	34	133
Clinton	26	8	8	6	24	14	157
Creston	10	4	10	6	24	30	146
Eagle Grove	10	2	12	6	17	8	103
Ellsworth	14	3.5	8	6	26	9	117.5
Emmetsburg	11.333	-	10	3	16	10	75.333
Estherville	16	-	8	6	23	33	132
Fort Dodge	10	9	8	6	21	19	127
Keokuk	23	5	9	6	46	33	189
Marshalltown	16	5	10	6	19	24	124
Mason City	28	11	13	3	49.5	16	204.5
Muscatine	12	-	11	6	25	19	106
Webster City	13	1	8	6	21	20	102
Total	226.666	67.5	129	81	397.5	346	2089.66

Table 9. Art curricula: subject areas and number of semester hours

Community college	Art Appreciation	Art for Elementary Grades	Basic Design	Ceramics	Fundamentals	Oil Painting	Sculpture	Totals
Boone	-	2	3	-	5	-	7	17
Burlington	-	-	-	-	-	-	-	-
Centerville	3	-	-	-	-	-	-	3
Clarinda	2	-	-	-	-	-	-	2
Clinton	-	-	-	-	-	-	-	-
Creston	-	-	-	-	3	-	-	3
Eagle Grove	-	-	-	-	4	-	-	4
Ellsworth	-	-	-	2	3	2	-	7
Emmetsburg	-	2	-	-	-	-	-	2
Estherville	-	-	-	-	-	-	-	-
Fort Dodge	-	-	-	-	3	-	-	3
Keokuk	-	3	3	-	3	-	-	9
Marshalltown	3	-	-	-	-	-	-	3
Mason City	-	-	-	-	2	-	-	2
Muscatine	-	-	-	-	3	-	-	3
Webster City	-	-	-	-	-	-	-	-
Totals	8	7	6	2	26	2	7	58

Table 10. Commercial curricula: subject areas and number of semester hours

Community college	Acctg.	Adv. Steno.	Bus. Corr.	Bus. Law	Bus. Mach.	Bus. Math.	Bus. Organ. & Man.	Bus. Stat.
Boone	4	-	-	-	-	-	-	-
Burlington	6	-	-	3	-	-	-	-
Centerville	4	-	-	-	3	3	-	-
Clarinda	6	-	-	2	2	2	-	-
Clinton	6	-	-	-	2	-	-	-
Creston	3	-	3	6	-	-	-	-
Eagle Grove	3	-	-	-	5	-	-	-
Ellsworth	3	3	-	-	2	2	3	-
Emmetsburg	-	-	-	-	-	3	-	-
Estherville	18	-	-	-	-	-	-	-
Fort Dodge	3	3	-	-	3	-	-	-
Keokuk	2	-	-	6	3	-	-	-
Marshalltown	3	-	-	-	-	-	-	-
Mason City	3	-	-	3	-	-	-	3
Muscatine	3	-	-	-	-	-	-	-
Webster City	3	-	-	3	2	-	-	-
Totals	70	6	3	23	22	10	3	3

Table 10 (Continued)

Community college	Econ.	Introd. to Bus.	Mktg.	Med. Tech.	Sales.	Sec'y. Sci.	Shtd.	Typg.	Total
Boone	-	-	-	-	-	-	-	-	4
Burlington	6	6	3	-	-	-	-	-	24
Centerville	3	3	-	-	-	-	-	-	16
Clarinda	-	4	-	-	-	-	9	6	31
Clinton	-	6	-	-	-	-	-	4	18
Creston	-	2	3	-	-	-	9	8	34
Eagle Grove	3	3	-	-	-	-	-	-	14
Ellsworth	3	-	-	-	-	3	-	2	21
Emmetsburg	3	-	-	-	-	-	-	-	6
Estherville	-	3	-	-	-	-	-	-	21
Fort Dodge	-	3	-	-	-	-	3	6	21
Keokuk	-	4	-	-	3	-	-	-	18
Marshalltown	-	3	-	-	-	-	-	-	6
Mason City	-	3	-	2	-	-	-	1	15
Muscatine	-	-	-	-	-	-	-	-	3
Webster City	-	2	-	-	-	-	3	2	15
Totals	18	42	6	2	3	3	24	29	267

Table 11. Education curricula: subject areas and number of semester hours

Community college	Chldrn's Lit.	Develop. Rdng.	Elem. Schl. Curr.	Elem. Schl. Meth. & Man.	Introd. to Educ.	Observ. & Part.	Orient. to Educ.	Total
Boone	-	-	-	-	-	-	-	-
Burlington	2	-	-	-	3	-	2	7
Centerville	-	-	-	-	3	-	-	3
Clarinda	-	-	-	-	3	-	-	3
Clinton	-	-	1	-	6	-	-	7
Creston	-	-	-	-	3	2	-	5
Eagle Grove	2	-	-	-	-	5	-	7
Ellsworth	3	-	-	-	-	-	-	3
Emmetsburg	-	-	-	3	3	-	-	6
Estherville	-	-	-	-	3	-	-	3
Fort Dodge	-	-	-	-	3	-	-	3
Keokuk	-	-	-	-	-	-	-	-
Marshalltown	-	-	-	-	-	-	-	-
Mason City	3	1	-	-	2	-	-	6
Muscatine	-	1	-	-	-	-	-	1
Webster City	3	-	-	-	-	-	-	3
Totals	13	2	1	3	29	7	2	57

Table 12. Engineering drawing - industrial arts curricula: subject areas and number of semester hours

Community college	Descr. Geo.	Elec.	Eng. Graph.	Eng. Prob.	Ind. Draft.	Mach. Shop	Metal Proc.	Wood Shop	Total
Boone	-	-	3	-	-	-	-	-	3
Burlington	-	-	-	-	-	3	3	-	6
Centerville	-	-	2	-	-	-	-	-	2
Clarinda	-	-	3	2	-	-	-	-	5
Clinton	-	-	6	-	-	3	3	6	18
Creston	3	-	3	-	-	-	-	-	6
Eagle Grove	-	-	3	1	-	-	3	-	7
Ellsworth	-	-	3	-	-	-	-	-	3
Emmetsburg	-	-	3	-	-	-	-	-	3
Estherville	-	-	-	-	-	-	-	-	-
Fort Dodge	-	-	3	1	-	-	-	-	4
Keokuk	-	-	12	2	-	-	-	-	14
Marshalltown	-	-	-	1	-	-	-	-	1
Mason City	2	8	3	1	7	-	-	-	21
Muscatine	-	-	3	5	-	-	-	-	8
Webster City	-	-	3	1	-	-	-	-	4
Totals	5	8	50	14	7	6	9	6	106

Table 13. English and speech curricula: subject area and number of semester hours

Community college	Bible	Bus. Engl.	Comm. Skills	Drama	Inter. Rdng.	Jrnlsm.	Lit.	Rdng. Imp.	Speech	Total
Boone	-	-	3	2	-	2	4	-	2	13
Burlington	-	-	6	-	-	-	6	-	4	16
Centerville	-	-	3	-	-	-	3	-	5	11
Clarinda	-	2	6	-	-	-	-	-	2	10
Clinton	-	-	6	-	-	-	3	1	4	14
Creston	-	-	6	-	2	-	2	-	4	14
Eagle Grove	-	-	3	-	-	-	3	-	2	8
Ellsworth	-	-	4	-	-	-	-	-	5	9
Emmetsburg	-	-	6	-	-	-	-	-	2	8
Estherville	-	-	6	-	-	-	6	-	2	14
Fort Dodge	-	-	8	-	-	-	4	-	3	15
Keokuk	-	-	6	-	-	2	6	-	4	18
Marshalltown	-	-	6	-	-	1	8	-	3	18
Mason City	2	-	5	-	-	14	3	-	2	26
Muscatine	-	-	3	-	-	-	3	-	3	9
Webster City	-	-	3	-	-	-	3	-	-	6
Totals	2	2	80	2	2	19	54	1	47	209

Table 14. Foreign language curricula: subject areas and number of semester hours

Community college	French	German	Spanish	Total
Boone	8	-	-	8
Burlington	14	14	-	28
Centerville	-	-	8	8
Clarinda	-	-	4	4
Clinton	-	-	14	14
Creston	-	-	-	-
Eagle Grove	-	-	8	8
Ellsworth	8	-	-	8
Emmetsburg	-	-	-	-
Estherville	-	-	8	8
Fort Dodge	8	-	-	8
Keokuk	-	8	-	8
Marshalltown	-	-	16	16
Mason City	7	-	7	14
Muscatine	4	-	4	8
Webster City	5	-	-	5
Totals	54	22	69	145

Table 15. Mathematics curricula: subject areas and number of semester hours

Community college	Analyt. Geom.	Analyt. Geo. & Calc.	Basic Math.	Calc.	Coll. Alg.
Boone	-	-	-	4	3.333
Burlington	-	-	-	10	3
Centerville	-	-	-	-	-
Clarinda	4	-	2	4	-
Clinton	3.333	4	8	4	3.333
Creston	-	-	-	-	-
Eagle Grove	-	-	-	-	-
Ellsworth	-	-	-	4	-
Emmetsburg	-	-	-	8	3.333
Estherville	-	-	3	8	5
Fort Dodge	-	-	2	4	4
Keokuk	-	-	-	-	6
Marshalltown	-	-	3	4	4
Mason City	3	-	2	-	4
Muscatine	-	-	-	4	8
Webster City	-	-	3	5	5
Totals	10.333	4	23	59	49

Table 15 (Continued)

Community college	Elem. Anal.	Int. Math.	Inter. Alg.	Slide rule	Tech. Math	Trig.	Total
Boone	-	-	3.333	-	-	-	10.333
Burlington	-	-	3	1	-	-	17
Centerville	-	-	-	-	-	-	-
Clarinda	-	-	-	-	-	-	10
Clinton	-	-	-	-	-	3.333	26
Creston	-	10	-	-	-	-	10
Eagle Grove	-	10	-	-	-	-	10
Ellsworth	-	10	-	-	-	-	14
Emmetsburg	-	-	-	-	-	-	11.333
Estherville	-	-	-	-	-	-	16
Fort Dodge	-	-	-	-	-	-	10
Keokuk	-	15	-	-	-	2	23
Marshalltown	-	-	-	-	-	5	16
Mason City	10	-	3	-	3	3	28
Muscatine	-	-	-	-	-	-	12
Webster City	-	-	-	-	-	-	13
Totals	10	45	9.333	1	3	13.333	226.666

Table 16. Music curricula: subject areas and number of semester hours

Community college	Band	Choir	Explor. Music	Instru. Music	Int. Music	Music Apprec.	Orch.	Piano	Theory	Total
Boone	-	-	-	2	-	-	-	-	-	2
Burlington	-	-	-	-	-	6	-	-	8	14
Centerville	-	-	-	-	-	3	-	-	-	3
Clarinda	-	-	-	-	-	-	-	-	-	-
Clinton	-	4	-	4	-	-	-	-	-	8
Creston	-	1	3	-	-	-	-	-	-	4
Eagle Grove	-	-	-	-	2	-	-	-	-	2
Ellsworth	.5	1	2	-	-	-	-	-	-	3.5
Emmetsburg	-	-	-	-	-	-	-	-	-	-
Estherville	-	-	-	-	-	-	-	-	-	-
Fort Dodge	2	2	-	-	-	-	2	-	3	9
Keokuk	-	4	-	-	-	1	-	-	-	5
Marshalltown	-	2	-	-	-	3	-	-	-	5
Mason City	-	1	3	-	-	-	-	2	5	11
Muscatine	-	-	-	-	-	-	-	-	-	-
Webster City	-	1	-	-	-	-	-	-	-	1
Totals	2.5	16	8	6	2	13	2	2	16	67.5

Table 17. Physical education curricula: subject areas and number of semester hours

Community college	Games and swimming	Health	Phys. Ed. for Elem. Grades	Men	Women	Total
Boone	-	-	-	NC	NC	-
Burlington	-	2	-	2	2	6
Centerville	-	-	-	NC	NC	-
Clarinda	-	-	-	4	4	8
Clinton	-	-	-	4	4	8
Creston	-	2	-	4	4	10
Eagle Grove	2	2	-	4	4	12
Ellsworth	-	-	-	4	4	8
Emmetsburg	-	2	-	4	4	10
Estherville	-	-	-	4	4	8
Fort Dodge	-	-	-	4	4	8
Keokuk	1	-	-	4	4	9
Marshalltown	2	-	-	4	4	10
Mason City	-	3	2	4	4	13
Muscatine	-	3	-	4	4	11
Webster City	-	-	-	4	4	8
Totals	5	14	2	54	54	129

Table 18. Psychology curricula: subject areas and number of semester hours

Community college	Adv.	Child Develop.	Educa.	General	Human growth & develop.	Total
Boone	-	3	-	3	-	6
Burlington	-	-	-	3	-	3
Centerville	-	-	-	-	-	-
Clarinda	-	3	-	3	-	6
Clinton	-	-	3	3	-	6
Creston	-	-	3	3	-	6
Eagle Grove	-	-	3	3	-	6
Ellsworth	-	3	-	3	-	6
Emmetsburg	-	3	-	-	-	3
Estherville	-	-	-	3	3	6
Fort Dodge	3	-	-	3	-	6
Keokuk	-	-	3	3	-	6
Marshalltown	-	3	-	3	-	6
Mason City	-	-	-	3	-	3
Muscatine	-	-	3	3	-	6
Webster City	-	-	3	3	-	6
Totals	3	15	18	42	3	81

Table 19. Science curricula: subject areas and number of semester hours

Community college	Astron.	Biol.	Botany	Chem. for Nurses	Gen. Chem.	Human Anatomy	Inorg. Chem.	Life Sci.
Boone	-	4	-	-	-	-	4	-
Burlington	4	-	-	3	-	3	5	-
Centerville	-	-	-	-	-	-	-	-
Clarinda	-	8	-	-	-	-	4	-
Clinton	-	8	-	-	-	-	4	-
Creston	-	-	4	-	8	-	-	-
Eagle Grove	-	3	5	-	-	-	4	-
Ellsworth	-	10	-	-	-	-	4	-
Emmetsburg	-	4	-	-	-	-	4	-
Estherville	-	-	-	-	-	-	4	-
Fort Dodge	-	-	-	-	-	-	-	-
Keokuk	-	4	4	-	8	-	-	-
Marshalltown	-	4	-	-	-	4	-	4
Mason City	-	8	-	4	4	3	3	-
Muscatine	-	4	-	-	8	-	-	-
Webster City	-	4	4	-	4	-	-	-
Totals	4	61	17	7	32	10	36	4

Table 19 (Continued)

Community college	Micro Biol.	Org. Chem.	Phys. Sci.	Phys. Sci. for teachers	Physics	Qualt. Analys.	Quant. Analys.	Zoology	Total
Boone	-	-	4	-	5	-	-	-	17
Burlington	3	5	-	-	18	-	-	4	45
Centerville	-	-	-	-	-	-	-	4	4
Clarinda	-	-	-	-	8	-	-	-	20
Clinton	-	-	-	-	8	-	4	-	24
Creston	-	-	-	-	8	-	-	4	24
Eagle Grove	-	-	-	-	5	-	-	-	17
Ellsworth	-	-	3	-	5	-	4	-	26
Emmetsburg	-	-	4	-	4	-	-	-	16
Estherville	-	-	3	-	8	-	4	4	23
Fort Dodge	-	4	4	-	5	4	-	4	21
Keokuk	4	-	4	-	10	-	8	4	46
Marshalltown	-	-	3	-	4	-	-	-	19
Mason City	-	5	4	2.5	8	-	4	4	49.5
Muscatine	-	-	4	-	5	-	4	-	25
Webster City	-	-	-	-	5	-	-	4	21
Total	7	14	33	2.5	106	4	28	32	397.5

Table 20. Social science curricula: subject areas and number of semester hours

Community college	Cont'y. Prob.	Econ.	Geo.	Govern.	Intro. Philos.	Intro. Soc.
Boone	1	3	-	6	-	4
Burlington	-	-	6	6	-	-
Centerville	3	-	3	9	-	-
Clarinda	-	6	-	6	4	6
Clinton	-	6	-	-	-	8
Creston	-	6	-	6	-	6
Eagle Grove	-	-	3	2	-	3
Ellsworth	-	-	-	-	-	3
Emmetsburg	-	-	-	3	-	-
Estherville	4	6	-	3	-	8
Fort Dodge	-	4	-	-	-	3
Keokuk	3	6	-	6	-	-
Marshalltown	-	3	-	3	-	3
Mason City	-	3	3	3	-	-
Muscatine	-	4	4	4	-	-
Webster City	-	3	-	3	-	3
Totals	11	50	19	60	4	47

Table 20 (Continued)

Community college	Marriage & the fam.	Prin. of Soc.	Social & econ. hist. of U. S.	U. S. Hist.	West. Civil.	Total
Boone	-	-	-	-	4	18
Burlington	-	6	-	6	8	32
Centerville	-	-	-	6	6	27
Clarinda	-	-	-	6	6	34
Clinton	-	-	-	-	-	14
Creston	-	-	-	6	6	30
Eagle Grove	-	-	-	-	-	8
Ellsworth	-	-	-	3	3	9
Emmetsburg	-	-	-	3	4	10
Estherville	-	-	-	4	8	33
Fort Dodge	-	-	-	4	8	19
Keokuk	3	-	3	6	6	33
Marshalltown	3	-	-	4	8	24
Mason City	-	-	-	3	4	16
Muscatine	-	-	-	3	4	19
Webster City	-	-	-	3	8	20
Totals	6	6	3	83	57	346

Class Enrollments and Dropouts

The data in Table 21 indicate the total enrollment of full-time students at the 16 public community colleges in Iowa from 1927-28 to 1962-63. A full-time student was defined as one who was enrolled for 12 semester hours or more. It should be noted that in 1927-28 there were nine community colleges in operation in Iowa with a total enrollment of 648 students. Two years later the number had more than doubled while the number of community colleges had increased from nine to twenty-three. The largest number of community colleges in operation at any one time was 27, that number remaining constant from 1931 to 1942. In 1944-45 there were 12 community colleges in operation with a total enrollment of 431 students. The small attendance at that time can be attributed to the effect on college enrollment of World War II. The following year the number of community colleges was increased to 15 with an enrollment of 607 students and in 1946-47 there were 21 community colleges with an enrollment of 2,120.

The largest number of community colleges in existence at any one time since World War II was 23 during the 1947-48 school year. At that time there were 2,180 students enrolled which was slightly more than half the number enrolled for the 1962-63 school year in 16 public community colleges.

At the time of Lagomarcino's study (37) there were 16

Table 21. Iowa public community colleges[a] - total enrollment of full time students

Year	Total Enrollment	Number of Community Colleges in Operation	Average Enrollment
1927-28	648	9	72.00
1928-29	946	17	55.65
1929-30	1,301	23	56.57
1930-31	1,621	26	62.34
1931-32	1,827	27	67.67
1932-33	1,887	27	69.93
1933-34	1,851	27	68.56
1934-35	1,939	27	71.81
1935-36	1,991	27	73.74
1936-37	1,958	27	74.52
1937-38	1,217	27	41.37
1938-39	1,374	27	50.89
1939-40	2,318	27	85.86
1940-41	2,433	27	90.11
1941-42	1,827	27	67.67
1942-43	1,402	27	51.93
1943-44[b]	440	13	33.85
1944-45[b]	431	12	35.98
1945-46	607	15	40.48
1946-47[c]	2,120	21	100.99
1947-48	2,180	23	94.78
1948-49	1,798	20	89.90
1949-50	1,688	19	88.80
1950-51	1,584	19	83.40
1951-52	1,312	16	82.00
1952-53	1,325	16	82.80
1953-54	1,457	16	91.10
1954-55	1,777	16	110.60
1955-56	2,332	16	145.9
1956-57	2,596	16	162.2

[a]The data for the years between 1927 and 1937 are adapted from Love and include only those community colleges which offered two years work.

[b]Eagle Grove and Emmetsburg discontined sophomore work for these two school years.

[c]Clinton added sophomore work in September, 1947.

Table 21 (Continued)

Year	Total Enrollment	Number of Community Colleges in Operation	Average Enrollment
1957-58	2,677	16	167.3
1958-59	2,783	16	174.1
1959-60	2,614	16	163.4
1960-61	2,891	16	180.7
1961-62	3,766	16	219.4
1962-63	4,269	16	266.8

community colleges in existence with an average enrollment of 110.6. The 1962 enrollment of 4,269 in the same 16 public community colleges indicated an average enrollment of 266.8 students, more than doubling since 1954-55.

The number of full-time day students enrolled in each of the 16 public community colleges in Iowa can be obtained from Table 22. Included in this table are the enrollment listings from 1953-54 to 1962-63. In 1953-54 Centerville had the smallest enrollment with a total of 27 persons registered on a full-time basis. Mason City was largest with 220 students enrolled, while Burlington had 214 in attendance. The average enrollment for 1953-54, which can be observed in Table 21, was 91.10. Five years later, during the 1958-59 school year, Centerville still had the fewest number of students enrolled with a total of 84 and Mason City had the largest enrollment with a total of 524.

Table 22. Enrollment trends - total enrollment of full-time day students

Community college	1953-54	1954-55	1955-56	1956-57	1957-58
Boone	63	85	106	120	120
Burlington	214	195	253	292	281
Centerville	27	85	104	88	88
Clarinda	71	112	166	150	108
Clinton	75	76	90	115	134
Creston	53	84	103	105	106
Eagle Grove	70	80	95	116	125
Ellsworth	99	97	155	169	181
Emmetsburg	42	62	84	69	48
Estherville	84	93	117	134	152
Fort Dodge	105	170	239	245	260
Keokuk	49	64	83	117	129
Marshalltown	102	107	122	162	171
Mason City	220	300	362	451	496
Muscatine	96	117	175	175	182
Webster City	51	72	78	88	96
Totals	1421	1798	2332	2596	2677

Table 22 (Continued)

Community college	1958-59	1959-60	1960-61	1961-62	1962-63*	% Increase 1953-1962
Boone	139	106	112	132	143	55.94
Burlington	293	265	360	388	443	51.69
Centerville	84	73	93	132	198	96.46
Clarinda	119	111	108	130	170	58.24
Clinton	138	128	129	182	227	66.96
Creston	106	103	99	140	154	65.58
Eagle Grove	127	101	106	124	118	40.68
Ellsworth	185	198	206	303	393	74.81
Emmetsburg	90	99	84	89	92	56.18
Estherville	123	135	127	177	165	49.09
Fort Dodge	233	265	274	401	430	75.58
Keokuk	157	150	154	156	183	73.22
Marshalltown	162	168	251	347	364	71.98
Mason City	524	456	474	627	756	70.90
Muscatine	198	172	210	308	295	67.46
Webster City	105	84	104	130	138	63.04
Totals	2783	2614	2891	3766	4269	66.71

*Enrollment on September 15, 1962, as reported by community college deans. (Full time student defined as one carrying 12 semester hours or more of academic work.)

It should be noted that the rate of increase in enrollment that was characteristic of the Mason City Junior College was not matched by Burlington which had a total enrollment in 1958-59 of 293. During the 1962-63 academic year the attendance reported on September 15, 1962, by the community college deans indicated that the smallest community college in the state was Emmetsburg with an enrollment of 92 students. Centerville had risen to a position of eighth in the state in enrollment with a total attendance of 198 students. Mason City retained its position as being the largest with a total of 756 students enrolled. The second largest in the state was Burlington with 443, followed closely by Fort Dodge with 434 and Ellsworth with 393. The final column represents the percent of increase in number of students from 1953-54 to 1962-63. Centerville showed the greatest percent of increase. It should be noted that the enrollment figures given for 1962-63 are not the average enrollments for the year but only for those registered on September 15, 1962. The total percent of growth for all of the institutions from 1953-54 to 1962-63 was 66.71 percent.

Table 23 indicates the freshman and sophomore enrollments from 1955-56 to 1961-62. One may note from the table that the sophomore enrollments are usually much smaller than the freshman enrollments. One of the basic reasons for this sharp drop in enrollment between the freshman and

Table 23. Freshman and sophomore enrollments 1955-56 to 1961-62 (Carrying 12 semester hours or more)

Community college	1955-56		1956-57		1957-58		1958-59		1959-60		1960-61*		1961-62*	
Boone	69	55	65	55	77	43	92	47	65	37	82	29	86	36
Burlington	171	102	190	102	184	97	179	114	157	95	253	86	248	103
Centerville	51	34	54	34	77	11	56	28	44	25	65	28	74	52
Clarinda	123	54	96	54	63	45	79	40	75	47	72	36	91	43
Clinton	60	37	78	37	87	47	94	44	68	50	73	56	108	63
Creston	68	42	63	42	75	31	51	55	64	31	62	37	94	35
Eagle Grove	67	46	70	46	77	48	78	49	52	46	68	35	66	48
Ellsworth	105	56	113	56	106	75	119	66	108	78	123	62	205	87
Emmetsburg	54	25	44	25	27	21	67	23	56	33	46	36	53	29
Estherville	76	41	93	41	103	49	85	38	73	53	88	39	100	56
Fort Dodge	155	77	168	77	161	99	159	79	148	63	200	70	310	64
Keokuk	53	34	83	34	87	42	94	63	89	55	83	71	95	49
Marshalltown	104	43	119	43	131	40	114	48	107	47	168	56	190	117
Mason City	236	202	249	202	296	200	261	208	258	175	273	207	407	202
Muscatine	116	67	108	67	107	75	131	67	92	67	135	75	158	107
Webster City	44	16	72	16	62	34	64	41	52	27	73	31	85	35
Totals	1552	931	1655	931	1720	957	1723	1010	1508	929	1864	954	2370	1126

*Figures are for the fall semesters of each year.

sophomore years is that of transfer to other institutions. An increasing number and percent of students were not returning to the community colleges for the sophomore year. One may compare this table with Table 24 which indicates the actual dropouts during the academic years involved. Using the 1960-61 academic year as an example, one may compare the tables and note that of the 1,864 freshman students enrolled, 328 were considered dropouts during the year. This represented an attrition rate of 17.60 percent for the year. The final column in Table 24 indicates the number of students who finished the freshman year of 1960-61 but who did not enroll as sophomores in the fall of the 1961-62 school year. Again by comparing the two tables, Table 23 and Table 24, one may note that for the 1960-61 academic year there were 1,864 enrollees in the freshman classes of the 16 institutions. Of these there were 328 dropouts during the academic year, 1960-61. This left a total of 1,536 students who actually completed the freshman year. Of these, 518, or slightly more than one-third, did not return in the fall of that year as students in the sophomore classes of the 16 public community colleges.

As a further breakdown on the types of students enrolled in the community colleges for the 1960-61 academic year, in addition to the 2,720 regular day students, there were also many other non-credit students involved in the community college program. The total number of persons

Table 24. Community college dropouts during academic year

Community college	1956-57		1957-58		1958-59	
	Fresh.	Soph.	Fresh.	Soph.	Fresh.	Soph.
Boone	7	7	20	0	17	2
Burlington	41	9	35	11	34	17
Centerville	6	0	3	0	6	3
Clarinda	14	1	6	0	5	1
Clinton	18	6	21	5	19	3
Creston	22	3	18	2	7	1
Eagle Grove	10	1	12	5	12	3
Ellsworth	20	14	9	12	18	4
Emmetsburg	12	5	9	3	11	4
Estherville	14	3	31	2	17	4
Fort Dodge	54	6	38	11	44	18
Keokuk	10	0	15	0	13	2
Marshalltown	22	2	28	3	27	2
Mason City	40	17	50	23	43	30
Muscatine	22	6	10	3	23	5
Webster City	22	3	13	5	17	22
Totals	335	83	318	85	313	111

Table 24 (Continued)

Community college	1959-60 Fresh.	1959-60 Soph.	1960-61 Fresh.	1960-61 Soph.	1961-62 Fresh.	1961-62 Soph.	Number students finishing freshman year 1960-61 but not enrolling for sophomore year 1961-62
Boone	12	3	10	0	12	6	83
Burlington	24	17	74	15	59	26	90
Centerville	11	3	2	1	22	6	16
Clarinda	11	5	12	3	10	4	30
Clinton	20	8	18	9	24	10	19
Creston	17	2	10	6	21	4	23
Eagle Grove	17	8	14	8	16	8	16
Ellsworth	10	3	18	10	17	1	26
Emmetsburg	23	6	19	9	13	10	12
Estherville	15	5	20	4	22	17	19
Fort Dodge	30	12	22	2	19	2	43
Keokuk	15	1	8	3	6	2	11
Marshalltown	27	1	21	6	38	14	27
Mason City	48	10	55	6	52	13	43
Muscatine	10	5	9	5	29	13	28
Webster City	13	3	16	3	10	3	32
Totals	303	92	328	90	370	139	518

attending some type of classes for the 1960-61 school year was 12,497. Three-hundred-fifty were special students. Special students may be defined as those taking less than 12 semester hours of work. Extension students numbered 1,473. Extension students may be defined as students who are taking university extension courses at the community colleges. Non-credit students numbered 7,954. Non-credit students may be defined as those taking courses for which no college credit is given.

Class Enrollments

The size of classes in the public community colleges in Iowa for the 1961-62 school year may be seen in Table 25. For the first semester there were 28 classes with five or fewer students enrolled and there were three classes that enrolled between 56 and 60 students. This represented the total range in class size. An analysis of the table reveals that the majority of the classes were under 30 in size with a large number having less than fifteen. Boone offered the largest number of classes with enrollments of five or fewer students for the 1961-62 school year with a total of 10. Boone also had the smallest number of classes with 21 or more enrolled. Out of a total of 77 different courses offered, Boone had 40 classes with 15 or fewer students enrolled. Seventy-two percent of the classes offered with five or fewer students were found in the

Table 25. Size of classes in public community colleges for the school year 1961-62

Community college	5 or fewer		6-10		11-15		16-20		21-25		26-30	
	1st. Sem.	2nd. Sem.	1st. Sem.	2nd. Sem.	1st. Sem.	2nd. Sem.	1st. Sem.	2nd. Sem.	1st. Sem.	2nd. Sem.	1st. Sem.	2nd. Sem.
Boone	4	1	6	10	6	10	11	10	7	2	0	0
Burlington	0	1	7	8	13	11	4	3	11	13	15	17
Centerville	0	0	0	0	4	3	3	5	4	4	8	6
Clarinda	4	3	9	11	8	8	7	9	7	6	1	2
Clinton	0	0	1	4	2	9	10	1	4	8	4	6
Creston	1	5	4	9	10	11	5	4	7	9	10	4
Eagle Grove	3	1	7	7	4	7	8	8	6	6	3	0
Ellsworth	4	2	3	3	6	8	2	4	12	11	6	7
Emmetsburg	3	4	2	4	5	3	4	6	5	5	2	1
Estherville	1	1	3	4	3	4	5	7	6	5	3	6
Fort Dodge	4	2	7	5	6	9	2	8	9	8	10	5
Keokuk	0	0	4	6	6	6	8	10	4	4	2	3
Marshalltown	2	1	3	3	2	6	6	11	7	16	15	10
Mason City	0	1	11	12	15	19	17	20	20	19	31	15
Muscatine	0	0	1	4	7	6	5	6	8	10	6	6
Webster City	2	3	4	6	10	10	8	6	12	5	1	6
Totals	28	30	72	96	107	130	105	118	129	131	117	94

Table 25 (Continued)

Community college	31-35		36-40		41-45		46-50		51-55		56-60	
	1st. Sem.	2nd. Sem.	1st. Sem.	2nd. Sem.	1st. Sem.	2nd. Sem.	1st. Sem.	2nd. Sem.	1st. Sem.	2nd. Sem.	1st. Sem.	2nd. Sem.
Boone	1	0	0	0	0	1	1	0	0	0	0	0
Burlington	11	9	10	9	2	2	0	1	0	0	0	0
Centerville	1	3	5	5	1	0	0	0	0	0	0	0
Clarinda	2	1	0	0	0	0	0	0	0	0	0	0
Clinton	4	5	5	0	2	0	0	3	2	0	1	1
Creston	4	2	0	1	1	0	0	0	0	0	0	0
Eagle Grove	1	1	1	2	2	1	0	0	0	0	0	0
Ellsworth	4	8	9	5	4	5	5	3	2	1	0	0
Emmetsburg	1	1	2	0	1	0	0	0	0	1	0	0
Estherville	5	3	3	2	3	2	0	1	0	0	0	0
Fort Dodge	5	6	9	5	9	6	0	1	1	0	1	1
Keokuk	2	2	3	2	0	0	0	0	1	1	1	1
Marshalltown	10	5	7	4	2	6	2	8	1	0	0	0
Mason City	13	10	4	6	7	5	0	2	0	2	0	0
Muscatine	4	3	1	2	0	3	1	0	2	2	0	0
Webster City	3	1	1	0	0	2	0	0	0	0	0	0
Totals	71	60	60	43	34	33	9	11	9	7	3	3

combined totals of six community colleges. These colleges and the number of classes of five or fewer students were

Boone	10
Clarinda	7
Creston	6
Ellsworth	6
Emmetsburg	7
Fort Dodge	6

Ellsworth, with six classes out of a total of 60, or 10 percent, had the greatest percentage of classes of five or fewer. Four community colleges had no classes with five or fewer students. There were 58 classes out of a total of 1,500 that enrolled 5 or fewer students. This represented 3.9 percent of the total number of classes. Out of a total of 1,500 classes, 226, or 15.07 percent, enrolled 10 or fewer students.

Analysis of Community College Staff

There were 335 faculty members teaching in the 16 public community colleges during the 1961-62 academic year. In Table 26 is shown the number of teachers employed by the community colleges for that year. This table also reveals the years of experience of community college teaching by each of the personnel employed during that year. Thirty-eight percent of the instructors had been employed five years or less. Sixty-one percent had been employed 10 years or less.

Eight percent of the community college teachers had had no previous experience in community college teaching. There were more teachers who had taught at least 31 years than there were in the beginning teacher category.

Of the 335 community college instructors, 102 were employed full-time by the community colleges. The majority of the balance shared their time with the local high school.

An analysis of Table 27 shows the student teacher ratio, based on the total equivalent of full time staff members. The student teacher ratio was lowest in the Burlington Community College with a ratio of 9.67. It was highest in Marshalltown with a ratio of 27.36. Mason City had the largest number of full time staff members while Clinton and Emmetsburg had no full-time faculty.

The maximum teaching load, as can be noted in Table 27, of any one teacher for the first semester of 1961-62 was highest at Mason City with 23.4 hours taught. The lowest was at Creston with 15.0 hours taught. The minimum teaching load of any one teacher for the first semester of 1961-62 was 12 semester hours and this situation was found at Clarinda, Ellsworth, Fort Dodge and Mason City. The average teaching load of all teachers indicated that the smallest teaching load was 15 semester hours at Fort Dodge. The largest average teaching load was 21.5 at Estherville. Mason City and Estherville both had 12 instructors teaching more than 16 hours for the first semester of the 1961-62

Table 26. Years of experience of community college teaching

Community college	Beginning teachers	1-5 years	6-10 years	11-15 years	16-20 years	21-25 years	26-30 years	31 years	Total
Boone	2	7	2	3	0	0	0	0	14
Burlington	1	10	5	3	2	2	1	4	28
Centerville	2	3	4	1	2	1	0	2	15
Clarinda	2	8	4	1	0	1	1	3	20
Clinton	0	9	2	6	5	0	0	0	22
Creston	0	5	5	2	1	1	1	1	16
Eagle Grove	0	8	4	2	5	0	0	1	20
Ellsworth	7	4	6	2	1	0	0	0	20
Emmetsburg	0	4	5	1	0	3	1	2	16
Estherville	0	8	6	1	1	0	0	5	21
Fort Dodge	2	7	7	3	3	2	1	4	29
Keokuk	1	6	11	0	0	0	0	0	18
Marshalltown	0	5	6	2	2	2	4	4	25
Mason City	0	2	4	6	5	6	0	9	32
Muscatine	5	5	5	1	2	1	1	0	20
Webster City	4	9	3	1	2	0	0	0	19
Totals	26	100	79	35	31	19	10	35	335

Table 27. Student teacher ratio

Community college	Full-Time Staff Members	Full-Time Equivalent of Part-Time Staff Members	Total Equivalent of Full-Time Staff Members	Average Daily Enrollment used in Determining Per pupil Cost	Pupil Teacher Ratio
Boone	4	3.70	7.70	112.14	14.56
Burlington	13	20.83	33.83	327.00	9.67
Centerville	3	4.50	7.5	124.6	16.61
Clarinda	8	3.00	11.00	131.25	11.93
Clinton	0	7.63	7.63	167.80	21.99
Creston	3	4.49	7.49	129.00	17.22
Eagle Grove	1	8.40	9.40	102.00	10.85
Ellsworth	8	5.90	13.90	289.0	20.79
Emmetsburg	0	5.46	5.46	74.69	13.67
Estherville	3	4.75	7.75	157.1	20.27
Fort Dodge	14	17.50	31.50	358.20	11.37
Keokuk	3	4.62	7.62	142.77	18.74
Marshalltown	7	4.00	11.00	301.00	27.36
Mason City	25	2.13	27.13	601.00	22.15
Muscatine	6	4.63	10.63	266.00	25.02
Webster City	4	3.60	7.60	119.88	15.77
Totals	102	105.14	207.14	3,403.43	16.43

school year.

One may also observe from Table 27 that the average maximum teaching load had decreased from 20.01 hours in 1957-58 to 18.39 hours in 1961-62. The average minimum for 1957-58 was 12.36 hours but had increased to 14.41 hours for the 1961-62 academic year.

An observation of Table 28 indicates some important information regarding the community college faculties for the 1961-62 academic year. Full-time community college teachers for that year numbered 102. There were 233 who were part-time with a total full-time equivalency of 105.14. There were only four with doctoral degrees, 266 had masters' degrees and 63 had their bachelors' degrees only. The average semester hours of graduate work ranged from 30 at Centerville to 91.80 at Fort Dodge. A total of 46 instructors were placed on temporary approval by the State Department of Public Instruction. Emmetsburg and Mason City had no staff members teaching on temporary approval while Centerville with nine, Mascatine with seven, and Creston with five constituted 45.65 percent of the total probationary list. Teaching salaries ranged from an average low of $5300.00 at Clarinda to a high of $7400.00 at Mason City. One possible explanation for this range is that 14 members (70 percent) of the twenty member staff at Clarinda had been employed in community college teaching less than ten years while 26 members (81.25 percent) of the thirty-two

Table 28. Teaching load by semester hours

Community college	1957-58 Max.	1957-58 Min.	1957-58 Ave.	1958-59 Max.	1958-59 Min.	1958-59 Ave.	1959-60 Max.	1959-60 Min.	1959-60 Ave.
Boone	21.0	15.5	18.5	22	16	17	19	12	16.4
Burlington	18.4	14.6	16.5	18	3	15	17.5	14	15.7
Centerville	24.24	15.8	19.9	20	16	16	14	16	15
Clarinda	23.0	11.0	17.0	24	14	18	22	16	17
Clinton	Data Unavailable								
Creston	18.0	3.0	13.0	18	3	13	15	10	10
Eagle Grove	20.38	12.45	16.5	19	11	15	19	13.5	15.9
Ellsworth	18.0	5.0	15.0	18	6	16	18	14	15
Emmetsburg	19.6	12.3	15.9	22	11	15	18	12	16
Estherville	18.68	11.12	16.16	18	14	14	18.5	14	17.5
Fort Dodge	20.5	15.5	17.8	19	13	16	16	14	14.75
Keokuk	18.5	13.0	15.9	18	13	16	19.3	14.5	16.1
Marshalltown	20.0	15.0	18.0	20	15	17	18	15	17
Mason City	21.6	12.0	17.74	23	13	16	18	14	16
Muscatine	19.3	15.0	15.9	18	15	16	16	15	15.5
Webster City	19.0	15.14	16.5	19	14	17	18.9	14.1	16.4
Averages:	20.01	12.36		19.75	12.13		17.82	13.93	

Table 28 (Continued)

Community college	1960-61 Max.	1960-61 Min.	1960-61 Ave.	1961-62 Max.	1961-62 Min.	1961-62 Ave.
Boone	19.4	12.0	16.6	20.2	14.4	16.8
Burlington	16.4	14.0	15.2	16.5	15.5	16.2
Centerville	15.0	12.0	14.0	16.0	15.0	15.5
Clarinda	19.0	15.0	16.0	22.0	12.0	16.0
Clinton	18.7	16.0	17.0	18.0	14.7	16.38
Creston	15.0	10.0	10.0	15.0	14.0	14.66
Eagle Grove	16.5	12.4	15.2	16.4	13.0	15.13
Ellsworth	18.0	12.0	15.9	16.0	12.0	15.0
Emmetsburg	19.0	10.9	15.8	18.4	12.9	15.8
Estherville	22.2	16.0	20.5	22.2	20.8	21.5
Fort Dodge	16.0	14.0	15.0	16.0	12.0	15.0
Keokuk	19.3	14.5	16.2	18.7	14.0	16.2
Marshalltown	18.0	16.0	17.0	18.0	16.0	17.0
Mason City	18.5	14.8	16.2	23.4	12.0	16.9
Muscatine	17.2	15.0	16.1	18.0	16.0	16.7
Webster City	18.9	15.0	16.5	19.4	16.3	17.5
Averages:	17.94	13.73		18.39	14.41	

Table 29. Number, preparation, and assignments of the faculties of the public community colleges

Community college	Men		Women		# Ph. D. or Ed. D.	# Masters	# B. A.
	Full Time	Part Time	Full Time	Part Time			
Boone	2	7	2	3	0	13	1
Burlington	7	8	6	7	1	25	2
Centerville	2	8	1	4	0	9	6
Clarinda	4	5	4	7	0	9	9
Clinton	0	16	0	6	0	19	3
Creston	1	8	2	5	0	14	2
Eagle Grove	1	14	0	5	0	15	5
Ellsworth	8	7	0	4	0	13	7
Emmetsburg	0	14	0	3	0	14	3
Estherville	2	14	1	4	1	11	9
Fort Dodge	9	10	5	5	1	28	0
Keokuk	3	12	0	3	0	16	2
Marshalltown	3	12	4	6	0	20	5
Mason City	15	4	10	3	0	30	1
Muscatine	6	12	0	2	0	15	5
Webster City	4	10	0	5	1	15	3
Totals	67	161	35	72	4	266	63

Table 29 (Continued)

Community college	Full-Time Equiv. of Part-Time Teachers	Average no. semester hrs. grad. work	Average salary teaching staff (Admin. excluded)	Salary range
Boone	3.70	55.30	$6391.00	4079-8252
Burlington	20.83	60.80	$7237.00	3337-8195
Centerville	4.50	30.00	$5766.66	4450-6193
Clarinda	3.00	31.00	$5300.00	4200-6725
Clinton	7.63	50.00	$6626.00	5581-8460
Creston	4.49	35.00	$5674.57	4525-6850
Eagle Grove	8.40	38.00	$6110.29	4700-8000
Ellsworth	5.90	45.40	$5744.86	3900-6975
Emmetsburg	5.46	43.40	$6080.68	4770-7261
Estherville	4.75	58.90	$5838.05	5200-8000
Fort Dodge	17.50	91.80	$7235.00	4900-8500
Keokuk	4.62	46.20	$6871.00	5525-7980
Marshalltown	4.00	63.10	$7000.00	5055-8020
Mason City	2.13	59.90	$7400.00	4800-9000
Muscatine	4.63	44.20	$5850.00	4900-7925
Webster City	3.60	44.00	$5832.00	5200-7750
Totals	105.14			

member staff at Mason City had been employed in community college teaching over ten years. Geographical location, size, and taxable evaluation of districts, as well as other factors could affect salary.

Assessed Valuation in Districts Maintaining Community Colleges

Shown in Table 30 are the assessed valuations, census enumerations of school-age persons (age 5-21), the average daily enrollment, and the assessed valuation per community college student. It can be observed that the assessed valuations ranged from a low of $6,094,449 at Centerville to a high of $50,557,596 at Mason City. More important than the total assessed valuation, however, is the assessed valuation per community college student. The range of the assessed valuation per student in each of the 16 districts maintaining a community college was from a low of $64,903 at Centerville to a high of $296,688 at Clinton.

Indicated in Table 33 are the per student costs from 1957-58 to 1961-62. The final column indicates the percent of increase in cost during this five year period. The mean per student cost in 1957-58 was $484.30, for 1958-59 - $491.70, for 1959-60 - $531.99, for 1960-61 - $573.55, and for 1961-62 - $602.23.

As an example of the community college finances for one fiscal year, one may observe Table 32. It should be noted that approximately one-third of the total receipts

Table 30. Valuation of districts maintaining community colleges for 1960-1961

Community college	Type of district	Assessed valuation	Census enumeration	ADE used in determining per student valuation	Valuation per C. C. student
Boone	Community	13,757,749	3299	108.00	$127,365
Burlington	Community	38,471,630	8943	337.00	$199,300
Centerville	Independent	6,094,449	1551	93.90	$ 64,903
Clarinda	Community	12,004,208	1173	101.50	$118,268
Clinton	Community	40,201,164	8997	135.50	$296,688
Creston	Community	11,771,698	2283	101.00	$116,551
Eagle Grove	Community	18,033,643	2176	104.86	$171,978
Ellsworth	Community	14,284,893	2097	178.00	$ 80,252
Emmetsburg	Community	9,554,742	1765	73.28	$130,387
Estherville	Community	10,461,722	2517	130.50	$ 80,166
Fort Dodge	Community	35,533,012	8364	260.60	$136,351
Keokuk	Community	25,269,996	4531	150.51	$167,896
Marshalltown	Community	39,189,731	6758	240.00	$163,291
Mason City	Independent	50,557,596	8708	507.50	$ 99,621
Muscatine	Community	21,611,830	5752	221.00	$ 97,791
Webster City	Community	22,456,396	3332	95.94	$234,067

Table 31. Per-student cost, 1957-58 to 1961-62

Community college	1957-58	1958-59	1959-60	1960-61	1961-62
Boone	$448.01	$491.80	$688.47	$595.53	$702.23
Burlington	443.29	470.86	462.13	522.62	589.39
Centerville	459.62	572.86	654.74	531.94	452.20
Clarinda	357.36	370.96	418.86	620.91	582.05
Clinton	503.66	517.22	656.92	612.26	610.72
Creston	581.65	577.02	699.15	732.15	763.69
Eagle Grove	496.53	504.59	567.67	625.16	759.50
Ellsworth	481.39	501.42	567.23	849.71	636.80
Emmetsburg	999.09	562.06	437.74	668.95	682.48
Estherville	466.85	556.26	462.72	532.60	513.83
Fort Dodge	357.32	531.34	447.39	390.26	505.53
Keokuk	500.53	481.55	506.89	573.57	656.35
Marshalltown	390.34	392.08	386.10	484.23	495.94
Mason City	391.32	399.98	509.78	504.16	529.48
Muscatine	327.03	329.52	461.23	387.91	399.34
Webster City	544.84	607.65	584.78	544.87	756.18

Table 32. Community college finances - 1960-61

INCOME	
Tuition	$ 479,926.88
Fees	32,340.78
State Aid	417,711.47
Endowments (Ellsworth)	16,000.00
Taxation	535,818.62
Sale of Bonds	0.00
Miscellaneous	8,180.58
Total Income	$1,489,978.33
EXPENDITURES	
General Fund	
General Control	$ 33,403.51
Instruction	1,116,797.99
Auxiliary Services	15,683.23
Operation and Maintenance	158,407.16
Fixed Charges	55,022.99
Capital Outlay and Debt Service	61,194.14
Total	$1,440,509.02
Schoolhouse Fund	117,515.85
Total Expenditures	$1,558,024.87
Average Per Pupil Cost	$573.55
Average Resident Tuition Rate Per Year	$148.25

was raised through tuition assessments. More than one-third, $535,818.62 was raised through taxation. State aid then based on one dollar per student per average daily attendance, reached a total of $417,711.47. As would be expected, the cost of instruction consumed the greater portion of income. The average cost per pupil for the 1960-61 academic year for all 16 public community colleges in Iowa was $573.55. During that year the average daily resident tuition rate was $148.26.

Table 33 indicates the expenditures for libraries from 1957-58 to 1961-62. In 1957-58 the lowest average per pupil cost in average daily attendance was $1.73 at Estherville and the highest was $12.78 at Eagle Grove. During the 1961-62 school year, the lowest amount spent for library costs on the basis of per pupil in average daily attendance was $12.23 at Fort Dodge and the greatest amount spent was $34.73 at Boone. For total expenditures, however, Muscatine spent $14,428.01 and the least amount spent was at Ellsworth with $3,002.13. The total amount spent for the five year period is a better indicator of the library facilities that are available at the several institutions. This can be observed in the final column. The range in expenditures was from a low of $6052.92 at Emmetsburg to a high of $48,634.15 at Mason City.

Table 33. Library expenditures, 1957-58 to 1961-62

Community college	Total	Ave. per pupil in ADA 1957-58	Total	Ave. per pupil in ADA 1958-59	Total	Ave. per pupil in ADA 1959-60
Boone	1086.57	10.46	1810.73	13.81	1892.49	18.74
Burlington	1075.00	4.03	9534.15	30.85	4837.33	16.45
Centerville	542.30	7.06	1519.80	17.53	1626.65	23.40
Clarinda	499.39	3.33	686.65	4.47	2590.00	21.23
Clinton	423.03	3.99	1193.33	10.46	1843.13	15.73
Creston	504.75	5.47	2972.54	30.33	3141.56	32.05
Eagle Grove	1500.00	12.78	2700.00	22.15	3019.30	30.15
Ellsworth	939.52	5.50	4896.64	27.77	5354.59	28.94
Emmetsburg	238.84	6.35	986.95	12.60	1378.83	15.30
Estherville	220.06	1.73	2382.58	22.72	3649.62	27.24
Fort Dodge	297.00	2.34	4004.08	18.98	3661.00	16.45
Keokuk	1259.45	10.42	2794.52	19.56	2010.96	13.42
Marshalltown	635.00	4.45	3850.00	22.00	3313.00	16.80
Mason City	3635.86	7.75	8795.97	16.97	10852.00	23.00
Muscatine	642.18	3.55	2027.10	10.14	3217.25	18.70
Webster City	434.00	5.33	2090.00	19.00	1639.63	20.22
Totals	13932.95		53118.04		54027.34	

Table 33 (Continued)

Community college	Total	Ave. per pupil in ADA 1960-61	Total	Ave. per pupil in ADA 1961-62	Total Spent 1957-62
Boone	12202.89	20.40	3895.07	34.73	10887.84
Burlington	5054.08	15.00	6993.37	21.39	27493.93
Centerville	1825.14	19.43	3181.83	25.15	8695.72
Clarinda	1796.45	14.97	2066.45	15.74	7638.94
Clinton	1834.48	13.54	2710.03	16.73	8004.00
Creston	3320.92	32.88	3605.30	27.96	13545.07
Eagle Grove	2890.00	27.56	3002.13	29.43	13111.43
Ellsworth	7023.71	39.45	9116.39	31.54	27330.85
Emmetsburg	1671.62	22.81	1776.68	23.79	6052.92
Estherville	3103.33	23.78	3031.93	12.23	12388.52
Fort Dodge	5337.41	20.48	6388.22	17.83	19687.71
Keokuk	2452.00	16.29	2691.00	18.85	11207.93
Marshalltown	3759.95	15.67	6393.08	21.24	17951.03
Mason City	10922.31	20.50	14428.01	24.00	48634.15
Muscatine	3389.41	15.33	5399.60	20.29	14675.54
Webster City	2474.05	25.79	2086.92	17.41	8724.60
Totals	59057.75		76766.01		

Transfers to Senior Institutions

Table 34 indicates the number of college graduates who transferred to four year colleges from 1954-55 to 1960-61. In 1954-55, there were 184 students who transferred to four year colleges and there were 471 who transferred in 1960-61. In this seven year period the number of graduates of the 16 public community colleges in Iowa had increased 256 percent.

Lagomarcino found that a total of 799 students had graduated from the 16 institutions in the five year period from 1959-50 to 1953-54. In the five year period from 1956-57 to 1960-61 there were 2,050 graduates, a 257 percent increase.

Butlington had the largest reported number of graduates who transferred to four year institutions from 1956-57 to 1960-61, while Emmetsburg had the smallest number of students who transferred to four year colleges. Mason City did not report its graduates who transferred for the 1957-58 academic year, so they would have actually had the largest number, had they been reported. Lagomarcino found that Burlington had the largest number with a total of 188 graduates who transferred and Mason City was second with 105, for a total of 293 students. He noted that the combined total of these two institutions represented 36.6 percent of the total number of graduates who transferred to the four year institutions between 1949-50 and 1953-54.

By comparing Table 34 with Table 29, one may contrast

Table 34. Community college graduates who transferred to four-year colleges

Community college	1954-1955	1955-1956	1956-1957	1957-1958	1958-1959	1959-1960	1960-1961	Total
Boone	12	15	15	15	15	18	17	50
Burlington	29	39	46	68	61	65	56	296
Centerville	3	11	6	10	5	14	32	67
Clarinda	8	43	20	22	30	28	28	128
Clinton	10	13	15	18	20	21	26	100
Creston	12	11	13	18	8	15	17	71
Eagle Grove	9	10	19	25	26	25	15	110
Ellsworth	13	11	18	31	40	35	38	162
Emmetsburg	8	10	2	3	8	11	8	32
Estherville	5	11	11	18	10	10	16	65
Fort Dodge	12	32	31	22	21	42	49	165
Keokuk	8	13	28	19	24	22	25	118
Marshalltown	15	9	22	19	22	17	40	120
Mason City	21	39	89	-	91	68	44	292
Muscatine	16	27	25	34	41	33	40	173
Webster City	3	16	4	14	14	19	20	71
Total	184	310	364	336	436	443	471	2050

the number of graduates of the public community colleges with the number of transfers to senior institutions. Using the year 1960-61 as an example, one may observe that there were 763 graduates of the 16 public community colleges. Of these, 471 (61.17 percent) entered senior institutions. For the 1960-61 school year, Mason City had the largest number of graduates (156) and Burlington (101) was second. Of the Mason City graduates, 28.20 percent transferred to senior

Table 35. Number of graduates by year (graduation from present community college)

Community college	Total graduates previous to 1949	1949	1950	1951	1952	1953	1954
Boone	166	21	20	11	14	13	9
Burlington	1036	78	80	62	44	32	49
Centerville	227	28	29	21	11	11	12
Clarinda	282	11	25	18	27	21	21
Clinton	16	17	19	9	18	20	17
Creston	512	32	22	19	30	32	22
Eagle Grove	154	19	26	27	14	24	25
Ellsworth	399	47	42	25	29	31	34
Emmetsburg	117	7	4	8	4	8	6
Estherville	251	20	25	13	15	26	22
Fort Dodge	508	44	29	29	21	24	19
Keokuk		Started in 1953					
Marshalltown	342	20	19	16	21	13	20
Mason City	795	49	66	67	67	64	73
Muscatine	319	23	26	25	27	20	32
Webster City	232	12	18	14	12	15	20
Totals	5356	428	450	364	354	354	381

Table 35 (Continued)

Community college	1955	1956	1957	1958	1959	1960	1961	1962
Boone	29	30	36	37	33	35	25	28
Burlington	56	68	98	84	-	98	101	90
Centerville	11	31	34	27	26	33	23	47
Clarinda	20	43	49	52	37	54	30	32
Clinton	19	22	23	23	34	35	34	35
Creston	20	32	32	32	36	35	27	26
Eagle Grove	25	26	43	46	44	39	30	37
Ellsworth	29	30	41	49	53	59	43	54
Emmetsburg	11	22	12	12	13	8	8	10
Estherville	26	33	39	42	25	35	24	38
Fort Dodge	16	69	60	71	41	46	70	69
Keokuk	14	19	28	28	42	40	45	32
Marshalltown	26	18	36	34	36	41	51	77
Mason City	77	101	140	146	150	133	156	133
Muscatine	38	55	62	71	71	71	76	86
Webster City	12	30	11	19	25	21	19	20
Totals	429	629	744	773	666	783	763	814

colleges while 55.45 percent of the Burlington graduates transferred to senior institutions.

One may also note from Table 30 the number of community college graduates from 1949 to 1962. In the five year period from 1958 to 1962, the number of graduates increased 5.04 percent while in the ten year period from 1953 to 1962, the number of graduates increased 56.51 percent.

Transfer to the Three State Institutions

Data in Table 36 indicate the distribution of the community college transfer students to the Iowa State University, the State University, and the State College of Iowa. A total of 394 students transferred to Iowa State University, 489 to the State University of Iowa and 204 to the State College of Iowa. Of the total of 1087 students, 141 were female students while 946 were male students. This investigator assumes two major criteria for selecting the senior institutions were proximity and curricula. Undoubtedly other factors are involved but it was not the purpose of this investigation to evaluate criteria for selection. Mason City, having consistently the largest enrollment, transferred the greatest number of students to all three senior institutions. The community college that supplied the second largest number of transferees to Iowa State University was Fort Dodge with a total of 49. The smallest was Keokuk with four transfers. For the State University

Table 36. Distribution of population by attendance at The Iowa State University, The State University of Iowa, and The State College of Iowa, 1955-58

Community college	Iowa State University			State Univ. of Iowa			State College of Iowa			Total
	Male	Female	Total	Male	Female	Total	Male	Female	Total	
Boone	29	3	32	14	-	14	8	-	8	54
Burlington	31	2	33	71	19	90	12	7	19	142
Centerville	14	-	14	6	1	7	4	-	4	25
Clarinda	23	-	23	16	3	19	1	2	3	45
Clinton	16	-	16	26	4	30	8	1	9	55
Creston	17	1	18	8	2	10	-	4	4	32
Eagle Grove	28	-	28	13	1	14	6	3	9	51
Ellsworth	19	2	21	12	2	14	21	2	23	58
Emmetsburg	4	-	4	12	2	14	4	1	5	23
Estherville	20	1	21	9	4	13	7	3	10	44
Fort Dodge	49	-	49	36	3	39	20	3	23	111
Keokuk	4	-	4	16	4	20	6	-	6	30
Marshalltown	20	5	25	27	3	30	18	10	28	83
Mason City	55	3	58	76	10	86	27	6	33	177
Muscatine	20	-	20	52	17	69	12	2	14	103
Webster City	26	2	28	17	3	20	6	-	6	54
Totals	375	19	394	411	78	489	160	44	204	1087

of Iowa, Muscatine supplied the second largest number of students with a total of 52 and Centerville supplied the least number with a total of six. For the State College of Iowa, Ellsworth supplied the second largest number of students with 21 and Creston transferred no students to that senior college.

One may observe from Table 37 the number of hours taken by community college students who transferred to the Iowa State University. In addition to the number of hours taken at the senior institution, one may also observe the number of hours taken at the community college before transferring. Of the students who transferred to Iowa State University, those who transferred from Marshalltown entered with the least number of hours of community college credits with a mean of 36.44. Students from Keokuk ranked highest in the number of hours taken in the community college with a mean of 56.25.

For the number of hours taken first term at Iowa State University, the range was from 14.03 for those from Boone to 16.33 by the transfer students from Creston. All of the institutions showed a decrease in the number of hours taken during the third term (second semester). The total number of hours taken to graduate (after having been converted from quarter hours to semester hours), ranged from 138.64 for transfer students from Boone to 149.97 for transfer students from Mason City. Of those individuals who were

Table 37. Mean number of hours taken by community college students who transferred to the Iowa State University

Community college	Mean Number Hours Taken at CC	Mean Number Hours Taken 1st Term	Mean Number Hours Taken 3rd Term	Mean Number Hours Taken Graduate	Mean Number Hours Taken Dropout	Total Number Transferred
Boone	42.53	14.03	11.59	138.64	70.28	32
Burlington	43.85	15.67	12.21	144.75	67.65	33
Centerville	38.86	14.86	12.71	143.82	43.0	14
Clarinda	51.04	14.83	11.65	142.07	77.44	23
Clinton	41.44	15.44	10.06	147.50	62.70	16
Creston	45.22	16.33	11.17	145.71	65.64	18
Eagle Grove	53.86	12.29	11.18	143.69	74.73	28
Ellsworth	52.33	14.81	13.71	144.09	81.00	21
Emmetsburg	55.75	16.00	12.50	149.00	82.33	4
Estherville	41.81	15.24	12.57	141.44	70.50	21
Fort Dodge	46.14	14.82	10.06	146.92	64.46	49
Keokuk	56.25	16.25	13.75	144.00	82.00	4
Marshalltown	36.44	16.00	14.00	141.00	69.25	25
Mason City	51.00	14.90	13.55	149.97	77.24	58
Muscatine	43.85	15.80	12.40	146.36	64.89	20
Webster City	40.04	15.36	12.36	143.13	64.50	28

Table 38. Mean number of hours taken by community college students who transferred to The State University of Iowa

Community college	Mean Number Hours Taken at CC	Mean Number Hours Taken 1st Term	Mean Number Hours Taken 3rd Term	Mean Number Hours Taken Graduate	Mean Number Hours Taken Dropout	Total
Boone	57.86	13.93	12.93	125.60	85.56	14
Burlington	55.37	14.87	13.44	132.67	88.47	90
Centerville	33.71	15.14	13.00	121.00	73.00	7
Clarinda	51.42	12.74	14.37	127.78	82.9	19
Clinton	53.57	15.03	13.67	126.16	80.3	30
Creston	56.7	14.3	12.4	137.20	86.20	10
Eagle Grove	57.43	14.36	12.86	131.33	97.20	14
Ellsworth	60.71	14.50	13.79	110.15	104.80	14
Emmetsburg	49.07	14.64	14.29	136.78	95.00	14
Estherville	54.46	13.46	12.69	121.43	81.00	13
Fort Dodge	53.72	13.36	13.31	129.52	83.56	39
Keokuk	59.40	15.15	14.20	127.57	82.50	20
Marshalltown	48.67	14.63	12.63	118.89	63.89	30
Mason City	59.14	14.56	13.99	131.81	86.43	86
Muscatine	56.59	13.96	13.06	132.61	79.54	69
Webster City	50.35	15.00	14.80	130.43	64.00	20

dropouts at Iowa State University, the range in the number of hours taken at the senior institution before dropout was from a low of 43.00 for transfer students from Centerville to a high of 82.33 for transfer students from Emmetsburg.

Data in Table 38 reveal similar information for community college transfer students who entered the State University of Iowa. For the number of hours taken at the community college before transferring to SUI, the range was from 33.71 for Centerville transfer students to a high of 60.71 at Ellsworth. Students from Clarinda enrolled in the least number of hours for their first semester of residence in the senior institution with a mean of 12.74 while students from Keokuk enrolled for the greatest number of hours with a mean of 15.15. The number of hours taken second semester was less in all cases except one; students from Clarinda showed an increase.

For those individuals who graduated from the State University of Iowa, the means for the number of hours taken ranged from a low of 110.15 for students who transferred from Ellsworth College to a high of 136.78 for Emmetsburg transfer students. For those individuals who were in the attrition group at the State University of Iowa, the least number of hours was taken by those who transferred from Marshalltown and the greatest number of hours taken before dropout was taken by transfer students from Ellsworth.

The data compiled in Table 39 show the hours taken by

community college students who transferred to the State College of Iowa. The range in the number of hours taken at the community colleges before entering SCI ranged from a low of 37.75 at Centerville to a high of 64.50 at Keokuk. The number of hours taken first semester ranged from a low of 14.00 for students from Centerville to a high of 17.00 for those students who transferred from Boone and Clarinda. The number of hours taken second semester was less in all cases except for those who transferred from community colleges at Centerville and Clinton. The total number of hours taken for those who graduated from the State College of Iowa ranged from a low of 124.63 for those who transferred from Burlington, to a high of 137.75 for those who transferred from Estherville. For those who did not graduate from State College of Iowa the range in the number of hours taken was from 51.00 for those who transferred from Clinton to a high of 110.00 for those from Creston.

An observation of Table 40 indicates the number of students in the survival and attrition groups with a percent of attrition by institution. Of 1,080 students for whom information was available, 661 graduated, 419 dropped out of the senior institutions. This represented total attrition of 38.51 percent. The State College of Iowa showed the lowest attrition rate with 22.06 percent while Iowa State University registered the highest attrition rate with 49.62 percent.

Table 39. Mean number of hours taken by community college students who transferred to The State College of Iowa

Community college	Mean Number Hours Taken at CC	Mean Number Hours Taken 1st Sem.	Mean Number Hours Taken 2nd Sem.	Mean Number Hours Taken Graduate	Mean Number Hours Taken Dropout	Total
Boone	61.88	17.00	17.00	129.14	96.00	8
Burlington	58.00	16.42	15.11	124.63	82.67	19
Centerville	37.75	14.00	14.50	131.67	56.00	4
Clarinda	64.00	17.00	16.67	129.00	--	3
Clinton	43.22	16.44	16.89	133.13	51.00	9
Creston	56.75	16.75	14.25	131.00	110.00	4
Eagle Grove	43.89	15.44	15.33	136.00	102.00	9
Ellsworth	58.30	15.26	13.61	132.71	80.17	23
Emmetsburg	40.40	15.80	13.60	132.67	63.00	5
Estherville	52.30	16.31	14.30	137.75	79.83	10
Fort Dodge	55.52	16.57	15.83	132.00	58.50	23
Keokuk	64.50	16.17	14.17	128.50	94.50	6
Marshalltown	51.46	16.21	15.04	133.95	87.00	28
Mason City	60.30	16.03	14.24	134.08	84.50	33
Muscatine	61.29	16.50	15.79	130.31	--	14
Webster City	64.17	16.00	13.17	130.20	76.00	6

Table 40. Number of students in survival and attrition groups and percentage of attrition by institution

Institution	Survival	Attrition	Total	Percent attrition
ISU	199	196	395	49.62
SUI	304	178	489	36.40
SCI	158	45	204	22.06
All institutions	661	419	1088	38.51

Data in Table 41 reveal the graduation tendency of students who transferred to one of the three state institutions. It can be noted that slightly more than 50 percent of those who transferred from the 16 public community colleges to Iowa State University graduated from that institution, slightly more than 62 percent graduated from the State University of Iowa, and over 77 percent of those who transferred to the State College of Iowa were graduated by that institution.

The grade point averages of students who graduated from the three state institutions can be observed in Table 42. High school, community college, and the cumulative senior college grade points are shown. Of the individuals

Table 41. Graduation tendency of students who transferred to one of the three state institutions

Institution	Graduated Number	Graduated Percent	Dropped out Number	Dropped out Percent	Total
ISU	199	50.38	196	49.62	395
SUI	304	62.17	178	37.83	482
SCI	158	77.45	45	22.55	203
Totals	661		419		1080

Table 42. Grade point averages of students in survival groups

Institution	High School	Community College	Cumulative College	Total
ISU	2.86	2.74	2.64	199
SUI	2.31	2.79	2.56	304
SCI	2.21	2.46	2.58	158

who graduated from the three state institutions, those who attended Iowa State University had the highest high school grade point with a 2.86. Those who entered the State College of Iowa had the lowest high school grade point with a 2.21.

The highest community college grade point average was obtained by those students who transferred to the State University of Iowa. There was little range in the senior college cumulative college grade point averages for those who graduated from one of the three institutions with a low of 2.56 at the State University of Iowa to a high of 2.64 at Iowa State University.

One may observe from Table 43 the grade point averages of students in the attrition group. The range in high school grade point averages was from a low of 1.97 for those who entered State College of Iowa to a high of 2.54 for those who entered Iowa State University. The community college grade point averages ranged from a low of 2.09 at State College of Iowa to 2.34 at the State University of Iowa. The cumulative college grade point averages ranged from a low of 1.30 at Iowa State University to a high 2.04 at the State University of Iowa.

The data in Table 43 indicate the grade point averages of all students who transferred to the three state senior institutions. The high school grade point averages ranged from a low of 2.16 for those community college students who transferred to the State College of Iowa to a high of 2.70 for those that transferred to Iowa State University. Community college grade point averages ranged from a low of 2.38 for those who transferred to the State College of Iowa to a high of 2.62 for those who transferred to the

Table 43. Grade point averages of students in attrition group

Institution	High School	Community College	Cumulative College	Total
ISU	2.54	2.32	1.30	196
SUI	2.00	2.34	2.04	178
SCI	1.97	2.09	1.63	45

State University of Iowa. A comparison of the cumulative senior college grade point averages for those who graduated and those who dropped out is shown in the final three columns.

An examination of Table 44 reveals the grade point averages of students in survival and attrition groups who transferred from the 16 public community colleges to the three state senior institutions. First term, first year, and cumulative senior college grade point averages are indicated for both the survival and attrition groups. It should be noted that for those individuals who transferred to Iowa State University, the first term grade point varied only .01 of a point. First term grade point averages for those who transferred to the State University of Iowa show marked differences between the survival and attrition groups.

The grade point averages of students who transferred to the three state senior institutions may be observed in

Table 44. Grade point averages of students in survival and attrition groups

Group	ISU First Term	ISU First Year	ISU Cumulative	ISU Total	SUI First Term	SUI First Year	SUI Cumulative	SUI Total	SCI First Term	SCI First Year	SCI Cumulative	SCI Total
Survival:	2.33	2.43	2.64	199	2.28	2.32	2.56	304	2.55	2.55	2.58	158
Attrition:	2.32	0.94	1.30	196	1.59	1.38	2.04	178	2.04	1.82	1.63	45

Table 45. Grade point averages of students who transferred

Institution	Total	High school	Community College	Cumulative college			
				Total Grads.	Gradulates	Total Dropouts	Dropouts
ISU	395	2.70	2.53	199	2.64	196	1.30
SUI	489	2.20	2.62	304	2.56	178	2.04
SCI	204	2.16	2.38	158	2.58	45	1.63
Total	1088			661		419	

Table 45. Scores are shown for high school, community college, and cumulative senior college. Scores for graduates and dropouts may be compared by institution. The graduates of ISU had the highest cumulative senior college grade point and the dropouts of ISU had the lowest cumulative senior college grade point.

The data in Table 46 show the graduation attrition pattern of community college students who transferred to the Iowa State University. The table is divided into two major sections, an analysis of community college graduates and an analysis of community college dropouts. One may note from the table that of those individuals who graduated from the respective community colleges, 27.19 percent also graduated from Iowa State University. Of those who were community college dropouts, 23.68 percent were Iowa State graduates.

The data in Table 47 indicate the graduation attrition pattern for community college students who transferred to the State University of Iowa. One may note from this table that for those individuals who graduated from the respective community colleges, there was a greater degree of success toward graduation at the State University of Iowa. For those individuals who were community college dropouts the distinction is not great between those who also dropped out at the State University of Iowa and those who graduated from that institution.

Table 46. Graduation/attrition pattern of community college students who transferred to The Iowa State University

Community college	Community College Graduates					Community College Dropouts					Total Transfers
	ISU Graduates		ISU Dropouts		Total	ISU Graduates		ISU Dropouts		Total	
	N	%	N	%		N	%	N	%		
Boone	5	35.71	7	50.00	12	1	7.10	1	7.10	2	14
Burlington	8	25.8	10	32.30	18	7	22.60	6	19.40	13	31
Centerville	1	8.33	2	16.67	3	8	66.7	1	8.33	9	12
Clarinda	10	43.48	2	8.70	12	4	17.39	7	43.5	11	23
Clinton	4	26.67	2	13.33	6	2	13.33	7	46.67	9	15
Creston	4	22.22	4	22.22	8	3	16.67	7	38.89	10	18
Eagle Grove	9	32.14	11	39.29	20	4	14.29	4	14.29	8	28
Ellsworth	8	38.10	4	19.05	12	3	14.30	6	28.57	9	21
Emmetsburg	1	25.00	2	50.00	3	-	--	1	25.00	1	4
Estherville	-	--	-	--	-	-	--	-	--	-	-
Fort Dodge	12	25.53	10	--	22	12	--	13	27.66	25	47
Keokuk	2	14.29	1	7.14	3	-	--	1	7.14	1	4
Marshalltown	2	8.33	3	12.50	5	11	45.83	8	33.33	19	24
Mason City	18	32.14	18	32.14	36	11	19.64	9	16.07	20	56
Muscatine	5	27.78	5	27.78	10	4	22.22	4	22.22	8	18
Webster City	4	20.00	3	15.00	7	11	40.74	9	33.33	20	27
Totals	93	27.19	84	24.56	177	81	23.68	84	24.56	165	342

Table 47. Graduation/attrition pattern of community college students who transferred to The State University of Iowa

Community college	Community College Graduates					Community College Dropouts					Total Transfers
	SUI Graduates		SUI Dropouts		Total	SUI Graduates		SUI Dropouts		Total	
	N	%	N	%		N	%	N	%		
Boone	4	44.44	3	3.33	7	-	--	2	2.22	2	9
Burlington	41	48.81	17	11.55	58	13	15.48	13	15.48	26	84
Centerville	-	--	-	--	-	1	100.00	-	--	1	1
Clarinda	4	26.67	4	26.67	8	3	2.00	4	26.67	7	15
Clinton	1	14.29	2	28.57	3	1	14.29	3	42.86	4	7
Creston	4	40.00	3	30.00	7	1	10.00	2	20.00	3	10
Eagle Grove	5	35.71	4	28.57	9	4	28.57	1	7.14	5	14
Ellsworth	7	50.00	4	28.57	11	2	14.29	1	7.14	3	14
Emmetsburg	2	18.18	1	9.09	3	4	36.36	4	36.36	8	11
Estherville	-	--	1	1.00	1	-	--	-	--	-	-
Fort Dodge	15	41.67	9	25.00	24	4	11.11	8	22.22	12	36
Keokuk	8	44.44	5	27.78	13	5	27.78	-	--	5	18
Marshalltown	10	37.04	3	11.11	13	9	33.33	5	18.52	14	27
Mason City	46	56.10	15	18.29	61	14	17.07	7	8.54	21	82
Muscatine	33	49.25	20	29.85	53	8	11.94	6	8.96	14	67
Webster City	9	52.94	1	5.82	10	3	17.65	4	23.53	7	17
Totals	189	45.76	92	22.27	281	72	17.43	60	14.52	132	413

Data in Table 48 reveal the graduation/attrition pattern of community college students who transferred to the State College of Iowa. For those individuals who graduated from the community colleges a much higher rate of graduation was shown than for either of the other state senior institutions. For those individuals who transferred to the State College of Iowa from the community colleges but who did not graduate from the community colleges, the chances of graduation were still superior to the chance of attrition.

Data in Table 49 indicate the Iowa or non-Iowa residency of those individuals who transferred to the three state senior institutions from the 16 public community colleges. Nearly all of them were residents of the state of Iowa. It is noteworthy, however, that nearly one-third of those persons who attended one of the 16 public community colleges in the state, attended high school in a district other than the district in which the community college was located. There was no consistency in pattern for this in the various community colleges. In the case of Centerville, 12 of 13 transfer students attended high school in another district. At Clarinda more than one-half were from out of the community college district. This was also true at Ellsworth. This indicates that the community colleges in Iowa were offering a significant amount of service to individuals outside of their own local school district.

Table 48. Graduation/attrition pattern of community college students who transferred to The State College of Iowa

Community college	Community College Graduates					Community College Dropouts					Total Transfers
	SCI Graduates		Dropouts		Total	SCI Graduates		Dropouts		Total	
	N	%	N	%		N	%	N	%		
Boone	5	100.00	-	-	5	-	-	-	-	-	5
Burlington	13	68.42	3	15.79	16	3	15.79	-	-	3	19
Centerville	2	66.67	-	-	2	-	-	1	33.3	1	3
Clarinda	2	100.00	-	-	2	-	-	-	-	-	2
Clinton	3	37.50	-	-	3	4	50.00	1	12.50	5	8
Creston	2	50.00	1	25.00	3	1	25.00	-	-	1	4
Eagle Grove	3	33.33	1	10.22	4	2	22.22	3	33.33	5	9
Ellsworth	10	47.62	4	19.05	14	6	28.57	1	47.62	6	21
Emmetsburg	-	-	-	-	-	3	75.00	1	25.00	4	4
Estherville	-	-	-	-	-	-	-	-	-	-	-
Fort Dodge	16	72.73	-	-	16	5	22.73	1	4.55	6	22
Keokuk	3	50.00	2	33.33	5	1	16.67	-	-	1	6
Marshalltown	12	48.00	5	20.00	17	6	24.00	2	8.00	8	25
Mason City	24	80.00	3	10.00	27	-	-	3	30.00	3	30
Muscatine	10	90.90	-	-	10	1	9.09	-	-	1	11
Webster City	5	83.33	1	16.67	6	-	-	-	-	-	6
Totals	110	62.86	20	11.43	130	32	18.29	13	7.43	45	175

Table 49. Iowa or non-Iowa residency of community college transfer students to the three state senior institutions

Community college	Iowa Resident		Attended CC in Grad. H. S. District	
	Yes	No	Yes	No
Boone	54		42	12
Burlington	140	2	118	24
Centerville	25		13	12
Clarinda	44	1	21	24
Clinton	55		47	8
Creston	31	1	19	13
Eagle Grove	51		31	20
Ellsworth	58		21	36
Emmetsburg	23		14	9
Estherville	44		32	12
Fort Dodge	109	2	73	38
Keokuk	30		25	5
Marshalltown	83		60	23
Mason City	175	2	110	66
Muscatine	100	3	86	17
Webster City	52	1	41	12
Totals	1075	12	753	332

There was a total of seventy-five different curricula into which students from the community colleges transferred in the three state institutions. These were grouped into eight larger groups and then a tabulation was compiled to show the entering curriculum. It was determined whether the student graduated or dropped out of the institution into which he transferred after he had entered a specific

curriculum. For those who entered into the general area of agriculture, one may observe from Table 50 that 68.06 percent graduated. For those who entered commerce, 69.44 percent graduated; for those who entered education, 79.03 percent graduated; for those who entered engineering, 49.32 percent graduated; for those who entered home economics, 58.33 percent graduated; for those who entered humanities, 62.28 percent graduated; for those who entered professional and pre-professional curricula, 64.29 percent graduated; and for those who entered science, 58.54 percent graduated.

Table 50. Graduation/attrition from senior institutions by entering curricula

Community college	Agriculture		Commerce		Education		Engineering	
	Grad.	Drop.	Grad.	Drop.	Grad.	Drop.	Grad.	Drop.
Boone	3	2	-	1	5	1	6	15
Burlington	2	1	6	3	9	2	20	17
Centerville	2	-	2	-	1	-	8	3
Clarinda	9	1	-	1	3	-	4	7
Clinton	3	-	8	1	4	2	5	12
Creston	3	3	1	-	3	2	4	6
Eagle Grove	-	2	1	-	5	2	7	8
Ellsworth	2	2	1	-	16	3	4	6
Emmetsburg	-	1	2	1	2	-	2	2
Estherville	4	-	1	2	3	4	2	6
Fort Dodge	2	4	5	1	11	6	17	17
Keokuk	-	-	1	-	1	1	6	3
Marshalltown	1	2	2	1	16	1	12	5
Mason City	7	1	11	9	12	2	24	21
Muscatine	7	3	6	1	4	-	11	13
Webster City	4	1	3	1	3	-	11	7
Totals	49	23	50	22	98	26	144	148

Table 50 (Continued)

Community college	Home Economics		Humanities		Professional		Science	
	Grad.	Drop.	Grad.	Drop.	Grad.	Drop.	Grad.	Drop.
Boone	2	-	7	8	-	-	3	1
Burlington	-	-	43	27	4	-	5	2
Centerville	-	-	4	4	-	-	-	-
Clarinda	-	-	9	9	1	-	-	1
Clinton	-	-	12	6	-	-	1	-
Creston	-	-	3	4	1	-	-	2
Eagle Grove	-	-	8	5	-	4	6	3
Ellsworth	1	-	11	5	-	-	2	5
Emmetsburg	-	-	5	4	1	-	1	-
Estherville	-	-	6	5	-	1	4	4
Fort Dodge	-	-	25	14	1	-	6	2
Keokuk	-	-	10	5	1	-	1	1
Marshalltown	2	2	15	10	1	-	4	4
Mason City	-	3	47	16	6	1	9	5
Muscatine	-	-	30	16	2	1	5	1
Webster City	2	-	11	5	-	2	1	2
Totals	7	5	246	143	18	9	48	33

PREDICTED ACHIEVEMENT OF COMMUNITY COLLEGE STUDENTS TRANSFERRING TO THE THREE STATE SENIOR INSTITUTIONS

First Term Grade Point Intercorrelations

Intercorrelations between three variables which affected the achievement of community college students who transferred to the Iowa State University appear in Table 51. When the students' first quarter grade point averages at ISU were compared with each of the three variables, all three of the coefficients of correlation reached the one percent level of significance. The coefficients were: high school grade point average, .416; community college grade point average, .501; ACE score, .240. Intercorrelations between the variables are also shown in Table 51.

Table 51. Intercorrelations between achievement at the Iowa State University and certain factors regarding community college transfer students

N = 332

Variable	X_1	X_2	X_3	Y
X_1 - High school grade point average		.592	.353	.416
X_2 - Community College grade point average			.367	.501
X_3 - ACE score				.240
Y - First quarter grade point average at ISU				

Further analyses were made of the community college students who transferred to the Iowa State University on the basis of the total number of hours accumulated in the community colleges before transferring to the senior institutions. The intercorrelation matrices for (1) those who acquired 30 semester hours of credit in the community college before transferring, and (2) those who accumulated 60 semester hours of credit before transferring to Iowa State University are shown in Tables 52 and 53, respectively. In each of these the coefficient of correlation between community college grade point average and the criterion

Table 52. Intercorrelations between achievement at the Iowa State University and certain factors regarding community college transfer students who completed 30 semester hours before transfer

N = 128

Variable	X_1	X_2	X_3	Y
X_1 - High school grade point average		.642	.367	.430
X_2 - Community College grade point average			.340	.465
X_3 - ACE score				.192
Y - First quarter grade point average at ISU				

Table 53. Intercorrelations between achievement at the Iowa State University and certain factors regarding community college transfer students who completed 60 semester hours before transfer

Variable	N = 126 X_1	X_2	X_3	Y
X_1 - High school grade point average		.554	.230	.385
X_2 - Community College grade point average			.294	.560
X_3 - ACE score				.174
Y - First quarter grade point average at ISU				

correlated higher than did the other two variables with the criterion. In both cases the ACE score was significant beyond the five percent level but not beyond the one percent level. The coefficients for community college grade point average and high school grade point average were significant beyond the one percent level.

Intercorrelations between two variables which affected the achievement of community college students who transferred to the State University of Iowa appear in Table 54. ACE scores were not available for transfer students to the State University of Iowa or the State College of Iowa. Both variables reached the one percent level of significance when the first semester grade point averages at the State University of Iowa were compared with high school grade point

averages and community college grade point averages. The coefficient of correlation between community college grade point average and first semester grade point average was .594. High school grade point averages correlated .384 with this measure of achievement.

Table 54. Intercorrelation between achievement at the State University of Iowa and certain factors regarding community college transfer students

Variable (N = 401)	X_1	X_2	Y
X_1 - High school grade point averages		.513	.384
X_2 - Community College grade point average			.594
Y - First semester grade point average at SUI			

A further analysis was made which can be observed in Tables 55 and 56. Coefficients of correlation between the same variables and the first semester grade point averages were computed for those individuals who had accumulated 30 semester hours of credit in one of the 16 public community colleges before transferring to the State University of Iowa. These coefficients are shown in Table 55. Another analysis was made of transfer students who had accumulated at least 60 semester hours of credit in a public community college

before transferring to SUI and these coefficients are shown in Table 56. In each instance community college grade point averages correlated higher with first semester grade point averages at SUI than did high school grade point averages.

Table 55. Intercorrelation between achievement at the State University of Iowa and certain factors regarding community college transfer students who completed 30 semester hours in community college before transfer

Variable (N = 80)	X_1	X_2	Y
X_1 - High school grade point averages		.433	.240
X_2 - Community College grade point averages			.596
Y - First semester grade point average at SUI			

Table 56. Intercorrelation between achievement at the State University of Iowa and certain factors regarding community college transfer students who completed 60 semester hours in community college before transfer

Variable (N = 261)	X_1	X_2	Y
X_1 - High school grade point average		.545	.463
X_2 - Community College grade point average			.617
Y - First semester grade point average at SUI			

Intercorrelations between two variables which affected the achievement of community college transfer students who transferred to the State College of Iowa are shown in Table 57. The students included in this group were those who had transferred from one of the 16 public community colleges in Iowa to the State College of Iowa. Both high school grade point average and community college grade point average reached the one percent level of significance

Table 57. Intercorrelations between achievement at the State College of Iowa and certain factors regarding community college transfer students

Variables (N = 163)	X_1	X_2	Y
X_1 - High school grade point average		.594	.425
X_2 - Community College grade point average			.540
Y - First semester grade point average at SCI			

when these variables were compared with the first semester grade point at that institution. Further analysis was computed (1) for those who had completed 30 semester hours in a community college before transferring to SCI, and (2) for those who had completed 60 semester hours before transfer. These data are shown in Tables 58 and 59, respectively. It should be noted that both coefficients in each of the analyses

were significant at the one percent level.

Table 58. Intercorrelations between achievement at the State College of Iowa and certain factors regarding community college transfer students who completed 30 semester hours in community college before transfer

Variable (N = 13)	X_1	X_2	Y
X_1 - High school grade point average		.764	.483
X_2 - Community college grade point average			.495
Y - First semester grade point average at SCI			

Table 59. Intercorrelations between achievement at the State College of Iowa and certain factors regarding community college transfer students who completed 60 semester hours in community college before transfer

Variable (N = 121)	X_1	X_2	Y
X_1 - High school grade point average		.620	.487
X_2 - Community college grade point average			.582
Y - First semester grade point average at SCI			

First Year Grade Point Intercorrelations

Intercorrelations between three variables which affected the achievement of community college students who transferred to Iowa State University appear in Table 60. Coefficients of correlation derived from this analysis all reached the one percent level of significance. Variables compared to first year grade point average at Iowa State University were: high school grade point average, .233; first term grade point average, .434; community college grade point average, .508. Intercorrelations between the variables may also be determined from this table. Further analysis was made by restricting the groups to those who had accumulated 30 semester hours of credit in a community college before

Table 60. Intercorrelations between achievement at the Iowa State University and certain factors regarding community college transfer students

Variables (N = 284)	X_1	X_2	X_3	Y
X_1 - High school grade point average		.339	.595	.233
X_2 - First term grade point average			.445	.434
X_3 - Community College grade point average				.508
Y - First year grade point average at ISU				

transfer and those who had accumulated 60 semester hours in a community college before transfer. The results of this analysis and the respective coefficients are shown in Tables 61 and 62. In both instances all three variables reached the one percent level of significance and in each of them community college grade point average attained a higher correlation with the criterion than either of the other two variables.

Table 61. Intercorrelations between achievement at the Iowa State University and certain factors regarding community college transfer students who completed 30 semester hours before transfer

Variable (N = 111)	X_1	X_2	X_3	Y
X_1 - High school grade point average		.411	.375	.253
X_2 - First term grade point average			.613	.424
X_3 - Community College grade point average				.518
Y - First year grade point average at ISU				

Intercorrelations between three variables which affected the achievement of community college students who transferred to the State University of Iowa appear in Table 63. All three variables reached the one percent level of significance when compared with first year grade point average at SUI. The

Table 62. Intercorrelations between achievement at the Iowa State University and certain factors regarding community college transfer students who completed 60 semester hours before transfer.

Variables (N = 105)	X_1	X_2	X_3	Y
X_1 - High school grade point average		.292	.340	.256
X_2 - First term grade point average			.567	.469
X_3 - Community College grade point average				.500
Y - First year grade point average at ISU				

respective scores were: high school grade point average, .455; first semester grade point average in senior college, .713; community college grade point average, .540.

Table 63. Intercorrelations between achievement at the State University of Iowa and certain factors regarding community college transfer students

Variables (N = 377)	X_1	X_2	X_3	Y
X_1 - High school grade point average		.453	.554	.455
X_2 - First semester senior college grade point average			.572	.713
X_3 - Community College grade point average				.540
Y - First year grade point average at SUI				

Further analysis was made by restricting two separate groups to those who had completed 30 hours in residence in a community college before transferring and those who had completed 60 hours in residence in a community college before transfer. In both instances, all three variables, when compared to the criterion, were significant at the one percent level. These data are shown in Tables 64 and 65, respectively.

Table 64. Intercorrelations between achievement at the State University of Iowa and certain factors regarding community college transfer students who completed 30 semester hours before transfer

Variables (N = 75)	X_1	X_2	X_3	Y
X_1 - High school grade point averages		.434	.543	.344
X_2 - First term senior college grade point average			.587	.769
X_3 - Community College grade point average				.505
Y - First year grade point average at SUI				

Intercorrelations between three variables which affected the achievement of community college students who transferred to the State College of Iowa appear in Table 66. All three variables reached the one percent level of significance when compared with first year grade point average at SCI.

Table 65. Intercorrelations between achievement at the State University of Iowa and certain factors regarding community college transfer students who completed 60 semester hours before transfer

Variables (N = 245)	X_1	X_2	X_3	Y
X_1 - High school grade point average		.461	.534	.477
X_2 - First term senior college grade point average			.579	.686
X_3 - Community college grade point average				.588
Y - First year grade point average at SUI				

Coefficients of correlation were: high school grade point average, .345; first semester senior college grade point average, .737; community college grade point average, .463.

Table 66. Intercorrelations between achievement at the State College of Iowa and certain factors regarding community college transfer students

Variable (N = 156)	X_1	X_2	X_3	Y
X_1 - High school grade point average		.415	.588	.345
X_2 - First semester grade point average			.518	.737
X_3 - Community college grade point average				.463
Y - First year grade point average at SCI				

Further analyses were computed by restricting the sample to those who completed 30 semester hours in a community college before transfer and those who completed 60 semester hours at a community college. The results of these analyses are shown in Tables 67 and 68, respectively. In both instances all three variables reached the one percent level of significance when compared with first year grade point average at SCI.

Table 67. Intercorrelations between achievement at the State College of Iowa and certain factors regarding community college transfer students who completed 30 semester hours before transfer

N = 11

Variable	X_1	X_2	X_3	Y
X_1 - High school grade point average		.384	.734	.452
X_2 - First term grade point average			.305	.793
X_3 - Community College grade point average				.478
Y - First year grade point average at SCI				

Table 68. Intercorrelations between achievement at the State College of Iowa and certain factors regarding community college transfer students who completed 60 semester hours before transfer

Variable (N = 116)	X_1	X_2	X_3	Y
X_1 - High school grade point average		.464	.427	.609
X_2 - First term grade point average			.721	.575
X_3 - Community College grade point average				.547
Y - First year grade point average at SCI				

Senior College Graduation Intercorrelations

Intercorrelations between three variables which affected the graduation of community college students who transferred to the Iowa State University appear in Table 69. The three variables correlated with the criterion as follows: high school grade point average, .228; community college grade point average, .241; and first year grade point average at Iowa State University, .562. Further analyses were made by limiting the samples to those who had accumulated 30 semester hours credit at a public community college before transferring to Iowa State University and those who had accumulated 60 semester hours of credit before transferring to the Iowa State University. The coefficients of correlation, when the variables were compared to the criterion are

Table 69. Intercorrelations between graduation from the Iowa State University and certain factors regarding community college transfer students

Variables (N = 283)	X_1	X_2	X_3	Y
X_1 - High school grade point average		.599	.417	.228
X_2 - Community College grade point average			.487	.241
X_3 - First year ISU grade point average				.562
Y - Graduation from Iowa State University				

shown in Tables 70 and 71 respectively. It should be noted that in each instance first year grade point average at Iowa State University correlated with the criterion much higher than did either of the other variables.

Table 70. Intercorrelations between graduation from the Iowa State University and certain factors regarding community college transfer students who completed 30 semester hours in community college before transfer

Variables (N = 110)	X_1	X_2	X_3	Y
X_1 - High school grade point average		.648	.459	.237
X_2 - Community College grade point average			.471	.178
X_3 - First year ISU grade point average				.562
Y - Graduation from Iowa State University				

Table 71. Intercorrelations between graduation from Iowa State University and certain factors regarding community college transfer students who completed 60 semester hours in community college before transfer

N = 105

Variables	X_1	X_2	X_3	Y
X_1 - High school grade point average		.545	.371	.256
X_2 - Community College grade point average			.561	.359
X_3 - First year ISU grade point average				.577
Y - Graduation from Iowa State University				

Intercorrelations between three variables which affected the graduation of community college students who transferred to the State University of Iowa appear in Table 72. All three variables reached the one percent level of significance when compared to graduation from SUI. The respective scores were: high school grade point average, .231; community college grade point average, .371; first year grade point average at SUI, .496.

Further analyses were made in which the group was restricted to those who completed 30 semester hours in residence at one of the community colleges and those who completed 60 semester hours in residence at one of the community colleges before transfer to the State University of Iowa. The results of these analyses are shown in Tables

Table 72. Intercorrelations between graduation from the State University of Iowa and certain factors regarding community college transfer students

Variables (N = 370)	X_1	X_2	X_3	Y
X_1 - High school grade point average		.555	.497	.231
X_2 - Community College grade point average			.615	.371
X_3 - First year SUI grade point average				.496
Y - Graduation from SUI				

73 and 74, respectively. In each of the instances, the first year grade point average at SUI correlated higher with the criterion than either of the other two variables.

Table 73. Intercorrelations between graduation from the State University of Iowa and certain factors regarding community college transfer students who completed 30 semester hours in community college before transfer

Variables (N = 72)	X_1	X_2	X_3	Y
X_1 - High school grade point average		.548	.478	.213
X_2 - Community College grade point average			.606	.350
X_3 - First year SUI grade point average				.523
Y - Graduation from SUI				

Table 74. Intercorrelations between graduation from the State University of Iowa and certain factors regarding community college transfer students who completed 60 semester hours in community college before transfer

Variables	N = 242 X_1	X_2	X_3	Y
X_1 - High school grade point averages		.534	.500	.230
X_2 - Community College grade point average			.641	.400
X_3 - First year SUI grade point average				.537
Y - Graduation from SUI				

Intercorrelations between three variables which affected the graduation of community college students who transferred to the State College of Iowa appear in Table 75. All three variables used reached the one percent level of significance when compared to graduation from the State College of Iowa. Respective coefficients were: high school grade point average, .502; community college grade point average, .895; first year grade point average at SCI, .379.

Further analyses were made by restricting the group to those who accumulated 30 semester hours credit at a community college before transfer to the State College of Iowa and those who completed 60 semester hours credit before transfer to the State College of Iowa. The results of these analyses are shown in Tables 76 and 77, respectively. For

Table 75. Intercorrelations between graduation from the State College of Iowa and certain factors regarding community college transfer students

Variables (N = 155)	X_1	X_2	X_3	Y
X_1 - High school grade point average		.587	.422	.502
X_2 - Community College grade point average			.535	.895
X_3 - First year SCI grade point average				.379
Y - Graduation from SCI				

Table 76. Intercorrelations between graduation from the State College of Iowa and certain factors regarding community college transfer students who completed 30 semester hours in community college before transfer

Variables (N = 10)	X_1	X_2	X_3	Y
X_1 - High school grade point average		.707	.505	.129
X_2 - Community College grade point average			.454	.061
X_3 - First year SCI grade point average				.015
Y - Graduation from SCI				

Table 77. Intercorrelations between graduation from the State College of Iowa and certain factors regarding community college transfer students who completed 60 semester hours in community college before transfer

Variables (N = 116)	X_1	X_2	X_3	Y
X_1 - High school grade point average		.609	.486	.680
X_2 - Community College grade point average			.608	.118
X_3 - First year SCI grade point average				.342
Y - Graduation from SCI				

those who had acquired 60 semester hours credit before transfer, the coefficient of correlation, when high school grade point average was compared with graduation, was highest with .680 and lowest with community college grade point average with .118. For those who acquired only 30 semester hours of credit before transfer, none of the scores reached the five percent level of significance.

Multiple Regression Analysis

For the purpose of predicting first term grade point at the Iowa State University from the selected variables a regression equation was developed of the type

$$Y = a_1X_1 + a_2X_2 + a_3X_3 - C$$

in which

Y = first term grade point average at ISU

X_1 = high school grade point

X_2 = community college grade point

X_3 = ACE score

a_1, a_2, a_3, and C were appropriate constants.

After testing it was found that the X_3 variable could be dropped without significant loss in prediction ability. The analysis of multiple regression is shown in Table 78. The regression equation, raw score form, was

$$Y = a_1X_1 + a_2X_2 - C$$

substituting

$$Y = .0001351069X_1 + .0004085253X_2 - .022255670.$$

Further analyses were made by restricting the group to those who had completed at least 30 semester hours in a community college before transferring to the Iowa State University. For the purpose of predicting first term grade point at ISU from similar variables, a regression equation was developed of the type

$$Y = a_1X_1 + a_2X_2 + a_3X_3 - C$$

in which

Y = first term grade point average at ISU

X_1 = high school grade point

X_2 = community college grade point

X_3 = ACE score

a_1', a_2, a_3, and C were appropriate constants.

Table 78. Analysis of multiple regression for predicting first term grade point at the Iowa State University for public community college transfer students

Source of variation	Degrees of freedom	Sum of squares	Mean square
Regression	3	725163.60	241721.20
Residuals	332	1917986.90	5777.0685
Total	335	2643150.50	
$F = 41.84$	$R^2 = .2744$	SE = 76.0070	
$Y = .0001351069X_1 + .0004085253X_2 - .022255670$			

After testing, it was found that the X_1 and X_3 variables could be dropped without significant loss in prediction ability. The analysis of multiple regression is shown in Table 79. The regression equation, raw score form, was

$$Y = a_2X_2 - C$$

$$Y = .47823921X_2 - .51755072.$$

An analysis was made of those individuals who had completed 60 semester hours in a community college before transferring to ISU. For the purpose of predicting first term grade point at ISU from the selected variables, the following regression equation was developed:

$$Y = a_1X_1 + a_2X_2 + a_3X_3 - C$$

in which

Table 79. Analysis of multiple regression for predicting first quarter grade point at the Iowa State University for public community college students who completed 30 semester hours in community college before transfer

Source of variation	Degrees of freedom	Sum of squares	Mean Square
Regression	3	273986.50	91328.828
Residuals	128	840686.38	6567.8623
Total	131	1114672.9	
F = 13.91	R^2 = .2457	SE = 81.0423	
Y = .47823921X_2 - .51755072			

Y = first term grade point average at ISU

X_1 = high school grade point

X_2 = community college grade point

X_3 = ACE score

a_1, a_2, a_3, and C were appropriate constants.

After testing, it was found that the X_1 and X_3 variables could be dropped without significant loss in prediction ability. The analysis of multiple regression is shown in Table 80. The regression equation, raw score form, was

$$Y = a_2X_2 - C$$

substituting

$$.78501643X_1 - .61293918.$$

Table 80. Analysis of multiple regression for predicting first quarter grade point at the Iowa State University for public community college students who completed 60 semester hours in community college before transfer

Source of variation	Degrees of freedom	Sum of squares	Mean square
Regression	3	279666.4	93222.128
Residuals	126	589554.59	4679.0046
Total	129	869220.99	
F = 19.92	R^2 = .3217	SE = 68.4032	
Y = .78501643X_1 - .61293918			

For the purpose of predicting grade point averages at the State University of Iowa from the selected variables a regression equation was developed of the type

$$Y = a_1X_1 + a_2X_2 - C$$

in which

Y = first semester grade point average at SUI

X_1 = high school grade point

X_2 = community college grade point

a_1, a_2, and C were appropriate constants.

The analysis of multiple regression is shown in Table 81. The regression equation, after substituting, became

$$Y = .12042055X_1 + .67514258X_2 - .047507800 .$$

Table 81. Analysis of multiple regression for predicting first semester grade point at the State University of Iowa for public community college transfer students

Source of variation	Degrees of freedom	Sum of squares	Mean square
Regression	2	821424.90	410712.45
Residuals	401	1449775.8	3615.4005
Total	403	2271200.7	
F = 113.60	R^2 = .3617	SE = 60.1282	
$Y = .12042055X_1 + .67514258X_2 - .047507800$			

For the purpose of predicting first term grade point at the State University of Iowa for those individuals who had completed at least 30 semester hours in a community college before transfer, similar variables were used for prediction. After testing it was found that the X_1 variable could be dropped without significant loss in prediction ability. The analysis of multiple regression is shown in Table 82. The regression equation, raw score form, was

$$Y = a_2X_2 - C$$

substituting

$$Y = .022557390X_2 - .066533800$$

Table 82. Analysis of multiple regression for predicting first semester grade point at the State University of Iowa for public community college students who completed 30 semester hours in community college before transfer

Source of variation	Degrees of freedom	Sum of squares	Mean square
Regression	2	231857.62	115928.81
Residuals	80	420522.18	5256.5268
Total	82	652379.80	
$F = 22.05$	$R^2 = .3554$	SE = 72.5019	
$Y = .022557390X_2 - .066533800$			

For predicting first term grade point at SUI for those who had completed at least 60 semester hours in a community college before transfer, both variables made significant contributions and were used in the regression equation. The analysis of multiple regression is shown in Table 83. The regression equation, raw score form, was

$$Y = a_1X_1 + a_2X_2 - C$$

substituting

$$Y = .20454182X_1 + .62463091X_2 - .16008440 .$$

Table 83. Analysis of multiple regression for predicting first semester grade point at the State University of Iowa for community college students who completed 60 semester hours in community college before transfer

Source of variation	Degrees of freedom	Sum of squares	Mean square
Regression	2	499675.70	249837.85
Residuals	261	737578.16	2825.9699
Total	263	123725.39	
F = 88.41	R^2 = .4039	SE = 53.1599	
$Y = .20454182X_1 + .62463091X_2 - .16008440$			

For the purpose of predicting first term grade point at the State College of Iowa from the selected variables, a regression equation was developed of the type

$$Y = a_1X_1 + a_2X_2 + C$$

in which

Y = first semester grade point average at SCI

X_1 = high school grade point

X_2 = community college grade point

a_1, a_2, and C were appropriate constants

The analysis of multiple regression is shown in Table 84. The regression equation, raw score form, was, after substituting,

$$Y = .16567079X_1 + .46709721X_2 + .78681760 .$$

Table 84. Analysis of multiple regression for predicting first semester grade point at the State College of Iowa for public community college transfer students

Source of variation	Degrees of freedom	Sum of squares	Mean square
Regression	2	188930.13	94465.06
Residuals	163	422777.80	2593.7288
Total	165	611707.93	
F = 36.42	R^2 = .3089	SE = 50.9287	
$Y = .16567079X_1 + .46709721X_2 + .78681760$			

For the purpose of predicting first term grade point at State College of Iowa for those who had completed 30 semester hours in a community college before transfer, the same variables were used in the analysis. The analysis of multiple regression is shown in Table 85. The regression equation, raw score form, was

$$Y = a_1X_1 + a_2X_2 + C$$

substituting

$$Y = .28902280X_1 + .36612120X_2 + .55770143 .$$

Table 85. Analysis of multiple regression for predicting first semester grade point at the State College of Iowa students who completed 30 semester hours in community college before transfer

Source of variation	Degrees of freedom	Sum of squares	Mean square
Regression	2	17889.303	8944.651
Residuals	13	48047.697	3695.9766
Total	15	65937.000	
$F = 2.42$	$R^2 = .2713$	SE = 60.7945	
$Y = .28902280X_1 + .36612120X_2 + .55770143$			

For predicting first semester grade point at the State College of Iowa for those who had completed 60 semester hours in a community college before transfer, the same variables were used in the analysis. The analysis of multiple regression is shown in Table 86. The regression equation, raw score form, was

$$Y = a_1X_1 + a_2X_2 + C$$

substituting

$$Y = .19747692X_1 + .44962229X_2 + .79104020 .$$

Table 86. Analysis of multiple regression for predicting first semester grade point at the State College of Iowa for students who completed 60 semester hours in community college before transfer

Source of variation	Degrees of freedom	Sum of squares	Mean square
Regression	2	149052.09	74526.04
Residuals	121	259937.74	2148.2457
Total	123	408989.83	
$F = 34.69$	$R^2 = .3644$	SE = 46.3492	
$Y = .19747692X_1 + .44962229X_2 + .79104020$			

For the purpose of predicting grade point at the end of the first year at Iowa State University from the selected variables, a regression equation was developed of the type

$$Y = a_1X_1 + a_2X_2 + a_3X_3 + C$$

in which

Y = grade point average at the end of the first year at ISU

X_1 = high school grade point

X_2 = first term grade point

X_3 = community college grade point

a_1, a_2, a_3, and C were appropriate constants. After testing it was found that the X_1 variable could be dropped without significant loss in prediction ability. The

analysis of multiple regression is shown in Table 87. The regression equation, raw score form, was

$$Y = a_2X_2 + a_3X_3 + C$$

substituting

$$Y = .52286746X_2 + .056943135X_3 + .41754584 .$$

Table 87. Analysis of multiple regression for predicting first year grade point at the Iowa State University for public community college transfer students

Source of variation	Degrees of freedom	Sum of squares	Mean square
Regression	3	639463.50	213154.50
Residuals	284	1121058.4	3947.3882
Total	287	1760521.9	
F = 54.00	R^2 = .3632	SE = 62.8282	
$Y = .52286746X_2 + .056943135X_3 + .41754584$			

For predicting first year grade point average for those individuals who had completed 30 semester hours before transfer to ISU, the same variables were used in the analysis. After testing it was found that the X_1 variable could be dropped without significant loss in prediction ability. The analysis of multiple regression is shown in Table 88. The regression equation, raw score form, was

$$Y = a_2X_2 + a_3X_3 + C$$

Substituting

$$Y = .52729184X_2 + .015457421X_3 + .39336294 .$$

Table 88. Analysis of Multiple regression for predicting first year grade point at the Iowa State University for public community college students who completed 30 semester hours in community college before transfer

Source of variation	Degrees of freedom	Sum of squares	Mean square
Regression	3	265990.83	88663.605
Residuals	111	409436.77	3688.6195
Total	114	675427.60	
$F = 24.04$	$R^2 = .3938$	SE = 66.7340	

$Y = .52729184X_2 + .015457421X_3 + .39336294$

For predicting first year grade point at Iowa State University for those individuals who had completed 60 semester hours of credit in a community college before transfer, the same variables were used in the regression analysis. After testing, it was found that the X_1 variable could be dropped without significant loss in prediction ability. The analysis of multiple regression is shown in Table 89. The regression equation, raw score form, was

$$Y = a_2X_2 + a_3X_3 + C$$

substituting

$$Y = .56129107X_2 + .077092380X_3 + .54584122 .$$

Table 89. Analysis of multiple regression for predicting first year grade point at the Iowa State University for public community college students who completed 60 semester hours in community college before transfer

Source of variation	Degrees of freedom	Sum of squares	Mean square
Regression	3	232782.13	77594.038
Residuals	105	420719.68	4006.8540
Total	108	653501.81	
F = 19.37	R^2 = .3562	SE = 63.2997	
$Y = .56129107X_2 + .077092380X_3 + .54584122$			

For the purpose of predicting first year grade point at the State University of Iowa from the selected variables a regression equation was developed using the same variables. A regression equation was developed of the type

$$Y = a_1X_1 + a_2X_2 + a_3X_3 + C$$

in which

Y = first semester grade point average at SUI

X_1 = high school grade point

X_2 = first semester grade point

X_3 = community college grade point

a_1, a_2, a_3 and C were appropriate constants .

The analysis of multiple regression is shown in Table 90. The regression equation, raw score form, was, after substituting

$$Y = .13556972X_1 + .60388308X_2 + .18493964X_3 + .034252760 .$$

Table 90. Analysis of multiple regression for predicting first year grade point at the State University of Iowa for public community college transfer students

Source of variation	Degrees of freedom	Sum of squares	Mean square
Regression	3	1104738.8	368246.22
Residuals	377	932626.83	2473.8112
Total	380	2037365.6	
F = 148.86	R^2 = .5422	SE = 49.7374	

$Y = .13556972X_1 + .60388308X_2 + .18493964X_3 + .034252760$

For predicting first year grade point at the State University of Iowa for those individuals who had completed 30 semester hours at a community college before transfer the

same variables were used in the analysis. After testing it was found that the X_1 and X_3 variables could be dropped without significant loss in prediction ability. The analysis of multiple regression is shown in Table 91. The regression equation, raw score form, was

$$Y = a_2X_2 + C$$

substituting

$$Y = .63149887X_2 + .66504872 .$$

Table 91. Analysis of multiple regression for predicting first year grade point at the State University of Iowa for public community college students who completed 30 semester hours in community college before transfer

Source of variation	Degrees of freedom	Sum of squares	Mean square
Regression	3	250960.98	83653.655
Residuals	75	169698.81	2262.6503
Total	78	420659.79	
$F = 36.97$	$R^2 = .5966$	$SE = 47.5673$	
$Y = .63149887X_2 + .66504872$			

For predicting first year grade point at the State University of Iowa for those individuals who had completed at least 60 semester hours of credit in a community college before

transfer, the same variables were used in the analysis. The analysis of multiple regression is shown in Table 92. The regression equation, raw score form, was

$$Y = a_1X_1 + a_2X_2 + a_3X_3 - C$$

substituting

$$Y = .14843754X_1 + .56193515X_2 + .30736119X_3 - .28079620 .$$

Table 92. Analysis of multiple regression for prediction of first year grade point at the State University of Iowa for public community college students who completed 60 semester hours in community college before transfer

Source of variation	Degrees of freedom	Sum of squares	Mean square
Regression	3	693085.00	231028.33
Residuals	245	600721.83	2451.9258
Total	248	1293806.80	
F = 94.22	R^2 = .5357	SE = 49.5169	

$Y = .14843754X_1 + .56193515X_2 + .30736119X_3 - .28079620$

For the purpose of predicting grade point at the end of the first year at the State College of Iowa from selected variables, a regression equation was developed of the type

$$Y = a_1X_1 + a_2X_2 + a_3X_3 + C$$

in which

Y = first semester grade point average at SCI

X_1 = high school grade point

X_2 = first semester grade point at SCI

X_3 = community college grade point

a_1, a_2, a_3, and C were appropriate constants .

After testing, it was found that the X_1 variable could be dropped without significant loss in prediction ability. The analysis of multiple regression is shown in Table 93. The regression equation, raw score form, was

$$Y = a_2X_2 + a_3X_3 + C$$

substituting

$$Y = .57795500X_2 + .093510376X_3 + .80075389 .$$

Table 93. Analysis of multiple regression for prediction of first year grade point at the State College of Iowa for public community college students

Source of variation	Degrees of freedom	Sum of squares	Mean square
Regression	3	201440.01	67146.665
Residuals	156	163049.58	1045.1896
Total	159	364489.59	
$F = 64.24$	$R^2 = .5527$	SE = 32.3294	
$Y = .57795500X_2 + .093510376X_3 + .80075389$			

For predicting grade point at the end of the first year at State College of Iowa for those individuals who had completed 30 semester hours at a community college before transfer, the same variables were used in the analysis. After testing it was found that the X_1 and X_3 variables could be dropped without significant loss in prediction ability. The analysis of multiple regression is shown in Table 94. The regression equation, raw score form, was

$$Y = a_2X_2 - C$$

substituting

$$Y = .69161635X_2 - .015491960 .$$

Table 94. Analysis of multiple regression for prediction of first year grade point at the State College of Iowa for public community college students who completed 30 semester hours in community college before transfer

Source of variation	Degrees of freedom	Sum of squares	Mean square
Regression	3	27650.895	9216.9645
Residuals	11	12420.838	1129.1670
Total	14	40071.733	
$F = 8.16$	$R^2 = .6900$	SE = 33.6030	
$Y = .69161635X_2 - .015491960$			

For predicting the first year grade point average at the State College of Iowa for those who had completed at least 60 semester hours in a community college before transfer, the same variables were used in the analysis. After testing it was found that the X_1 and X_3 variables could be dropped without significant loss in prediction ability. The analysis of multiple regression is shown in Table 95. The regression equation, raw score form, was

$$Y = a_2X_2 + C$$

substituting

$$Y = .51779073 + .72586490 .$$

Table 95. Analysis of multiple regression for predicting first year grade point at the State College of Iowa for public community college students who completed 60 semester hours in community college before transfer

Source of variation	Degrees of freedom	Sum of squares	Mean square
Regression	3	139167.77	46389.252
Residuals	116	115063.42	991.92598
Total	119	254231.19	
$F = 46.77$	$R^2 = .5474$	SE = 31.4949	
$Y = .51779073 + .72586490$			

For the purpose of predicting graduation from the Iowa State University, the State University of Iowa, and the State College of Iowa a regression equation was developed of the type

$$Y = a_1X_1 + a_2X_2 + C$$

in which

Y = graduation from the state institution

X_1 = high school grade point average

X_2 = community college grade point average

a_1, a_2, and C were appropriate constants .

After testing it was found that the X_2 variable could be dropped in predictions of graduations from all three state institutions without significant losses in prediction ability. After determining the prediction value of the variables, probability of graduation was determined as shown in Table 96.

The probability of graduation from one of the three state senior institutions is shown in Table 96. As shown in this table, probability of graduation from one of the three state institutions is shown as a function of community college academic achievement. If a student accumulated a community college grade point average in the interval between 2.01 and 2.50, his probability of graduation from ISU would be .38; from SUI, .55; and from SCI, .73. One may note from observation of the table that, in all cases but one, the probability of graduation from SUI was greater

Table 96. Probability of graduation for public community college students transferring to the Iowa State University, the State University of Iowa, and the State College of Iowa

Community College Grade Point Average	Probability of Graduation ISU	SUI	SCI
0.00 - 1.50	.27	.25	--
1.51 - 2.00	.23	.25	.74
2.01 - 2.50	.38	.55	.73
2.51 - 3.00	.54	.68	.85
3.01 - 3.50	.70	.87	.82
3.51 - 4.00	.79	.88	.90

than at ISU, and that, in all cases but one, probability of graduation was greater for those that transferred to SCI than either ISU or SUI. The slight decrease in the upward progression of probability of graduation in two instances may have been due to the limited number of transfer students in certain categories when setting up the probability table.

DISCUSSION

The transition from "junior college" to "community college" has been taking place in a limited number of the two-year institutions in Iowa. Along with the change in names has been an accompanying awareness of the fact that the two-year institutions should be multi-purpose colleges.

The number of different curricular offerings increased from a total of 576, as reported by Lagomarcino (37), in 1954-55 to a total of 706 during the 1961-62 academic year. The extensive listing of other courses in the community college catalogs indicated a desire to incorporate new teaching fields or extend present curricular offerings in established areas. More emphasis was being placed on education for special students and for adults in the respective communities.

Some of the institutions were clearly fulfilling university parallel programs while others exhibited needed areas of improvement. In order for the community colleges in Iowa to fulfill the single purpose of university parallel function, it is essential that they offer similar courses to those found in the senior institutions. As reported in the findings, two of the community colleges offered no foreign language courses, and in many other areas, course offerings were seriously restricted.

While it was noted that the enrollment in the community colleges had more than doubled since 1954-55, some of the institutions had failed to experience a significant rate of growth. It would appear to this investigator that, for those institutions which had failed to experience a significant growth in the number of students enrolled in the past ten years, a survey should be made to determine the need for specified curricular offerings.

The number of classes with five or fewer students had been reduced greatly since Lagomarcino's study. He found there were 100 classes with five or fewer students while at the time of this investigation, that number had been reduced to 58.

One of the most serious problems facing the community colleges centered around the academic preparation and assignments of the teaching staffs. With less than one-third of the instructors receiving full-time appointments, a full concentration of attention upon community college education could not be given. Out of 335 faculty members in the community colleges, only four had earned doctoral degrees. Of those individuals who had earned masters' degrees, many secured them in education rather than in the subject areas.

The attrition rate of community college students who transferred to the three state institutions remained a serious problem. It would appear that those individuals transferring from the community colleges to the three state

senior institutions are in need of more guidance before they select the institution in which they plan to continue their education and before they select their subject matter area of concentration. This investigator recognizes the fact that there are other reasons for attrition other than academic failure. It is significant, however, that for students transferring into the more technical atmosphere of Iowa State University, there was an accompanying increase in the attrition rate. This would seem to indicate that the community colleges in Iowa, in their university parallel programs, are not as successful in preparing individuals for the technical areas as they are for liberal arts and teacher education. This can be evidenced when one compares the attrition rate of transfer students to the State University of Iowa and the State College of Iowa with those who transferred to Iowa State University.

It was noted in the findings that students with the highest high school grade point average transferred to Iowa State University, but that those with the highest community college average transferred to the State University of Iowa. This might well indicate that high school students with superior achievement in high school entered into the more rigorous courses on the community college level and, as a result, achieved less well than those who prepared for transfer into one of the other state institutions in non-technical curricula.

Graduation from community college seemed to be a poor indicator of success from Iowa State University inasmuch as only slightly more than one-fourth also were graduated from the senior institution. One-half, however, of those who graduated from community colleges who transferred to SUI, also were graduated from that institution. The percent of graduation for those community college graduates who entered the State College of Iowa increased to nearly 63 percent.

It should be noted that the community colleges in Iowa were serving as educational institutions for persons outside the immediate community college district. Nearly one-third of those who entered the community colleges in the years studied were high school graduates of areas outside the community college districts.

The survival rate of transfer students varied widely according to the curriculum selected. The survival rate for those who entered into teacher education was much greater than that for those who entered into engineering. A simple answer for this difference in attrition was not readily available. It would seem to be an inadequate answer to suggest that they survived in the area of education because the course work was simpler or that they dropped out of engineering because of the greater degree of difficulty, even though both of these factors might enter into the overall picture. Community colleges may be doing a better job of preparing individuals for teacher education

than they are for the technical areas. It could be reasoned that those who were entering into the engineering curricula were not receiving ample guidance as to what would be expected of them in the four-year institutions. Other factors, no doubt, are present. Sociological-psychological adjustment may be a problem.

In many instances the community college transfer student, even though he be listed as an upperclassman, faces the same problems of orientation, but without a senior college orientation program, as the four year college freshman. He has the problem of adjustment to new surroundings, new staff members, new systems of grading, new levels of expectation, and close home ties are severed.

The potential of increased enrollments in the community colleges in Iowa presents another problem which the institutions must face. Inasmuch as enrollments have more than doubled since 1954-55, and, since growth is continuing, community colleges will be faced with serious problems in available facilities. Most were sharing facilities with the high schools, which proved in many instances, to be an inadequate procedure.

More instruction of a vocational-technical nature is needed in the community colleges. If the institutions are to truly reflect the wants and needs of the communities in which they exist, surveys should be taken of those communities to determine the needs for vocational-technical

education both on the high school and post-high school level.

Public community colleges in Iowa are still operating without a distinct state plan. The total program of post-high school education is being studied through the direction of the Iowa Legislature and the State Department of Public Instruction. New programs of development will no doubt be suggested to the Legislature as a result of recent studies.

It is noteworthy that, for the 1961-62 academic year, more than 61 percent of the graduates of the 16 public community colleges entered senior institutions. There was a wide range, however, in the number of graduates who transferred from the two year institutions. Mason City reported 28.20 percent while Burlington reported 65.45 percent transferred.

For the purpose of predicting graduation from one of the three state institutions, the best predictor was the community college grade point average. It should be noted, however, that the community college grade point averages varied greatly with the senior institution involved. Graduation/attrition rates also varied by senior institution. One would assume that there needs to be better articulation between community college and senior college and better guidance on the community college level. A more effective program of orientation on the senior college level might remove some of the problems that now exist.

To provide the needed educational facilities for the

youth of the state it would seem to be imperative that community college population and financial bases be enlarged. The plan proposed by the Study Committee organized by the State Department of Public Instruction should be carefully considered. The areas should be surveyed to determine if such a proposal would be favored by the voters of a proposed district. Other means of financing should be considered other than property tax for support. The sociological aspects of the divisions need to be considered if they are to be termed "community" colleges.

The community colleges will probably be called upon to perform functions which they have not executed in the past. They will, no doubt, increase in size and will be expected to take some of the burden off the state senior institutions. They will be responsible for educating a greater number of Iowa youth.

Further research is needed with respect to community college education in Iowa. Public community college transfer students should be compared with private junior college transfer students, four year liberal arts college transfer students, and transfer students from out of state public institutions. Very little is known about the guidance programs on the community college level. The role of vocational-technical education, as a function of the community colleges, should be assessed. A follow-up study on community college students who dropped out of senior

institutions would aid both the community colleges and the receiving institutions. The community college students in Iowa, for the most part, attend college in a high school setting. A study dealing with this aspect of external influences should be analyzed. More research needs to be done on community college teaching staffs. The financial bases of effective community college organization needs to be established and evaluated.

SUMMARY

This study was designed to assess the role of the community colleges in Iowa. The more specific purposes of the investigation were:

1. The appraise certain aspects of the sixteen public community colleges in Iowa.
2. To trace the achievement of community college transfer students after transferring to one of the three state educational institutions.
3. The predict the achievement of transfer students of Iowa public community colleges who matriculated at The Iowa State University, The State University of Iowa, and The State College of Iowa.
4. To determine and predict the graduation rate of the community college students who matriculated at the three state institutions of higher education during the academic years 1955-58.

One thousand eighty-eight transfer students from the 16 public community colleges in Iowa to the three state senior institutions were included in this investigation. To be included in the investigation the students must have: (1) transferred from one of the public community colleges in Iowa to the Iowa State University, the State University of Iowa, or the State College of Iowa during any quarter or semester beginning in the Fall of 1955 and continuing up to, but not

including, the Fall of 1959; (2) transferred directly to one of the three state institutions and remained enrolled in that particular institution until graduation or attrition; (3) attended no other educational institution, public or private, before entering community college or in the interval between attendance in a public community college and matriculation at one of the three state institutions; and (4) graduated from, or was a dropout of, one of the three state senior institutions.

For the purposes of this study, the following basic assumptions were made: (1) attrition was assumed if a student did not graduate from the institution in which he was enrolled, and (2) the four year period of 1955, 1956, 1957, and 1958 was a sufficient length of time to evaluate the success of community college transfer students. The data for this investigation were collected from the office of the registrar at each state senior institution, from each of the 16 public community colleges, from several high schools in the state, from the State Department of Public Instruction, and from catalogs issued by the public community colleges in Iowa.

There were 16 public community colleges in Iowa, the first being established in 1918 at Mason City and the last established in Keokuk in 1953. Seven of the institutions employed the word "junior" in their titles and eight used the term "community college". The institution at Iowa Falls

was known as Ellsworth College. The mean number of years of operation for the institutions was 33.9 years.

It was found that 706 different courses were taught during the 1961-62 academic year with a total of 2,034 semester hours having been offered. The number of catalog course offerings totalled 1,344. Mason City had the largest number of catalog listings with a total of 159 different courses listed.

All of the community colleges except Boone, Keokuk, and Marshalltown taught courses in education. Burlington, Clinton, Estherville, and Webster City taught no courses in art. All of the community colleges taught courses in engineering and industrial arts except Estherville and all offered foreign language except Creston and Emmetsburg. All but three institutions offered courses in music.

There were 4,269 full-time students enrolled in the 16 institutions as reported by the community college deans on September 15, 1962. This represented an average enrollment of 266.8 students. It was found that the enrollment in the community colleges had more than doubled since the time of Lagomarcino's study in 1954-55.

The smallest community college in the state was Emmetsburg with an enrollment of 92 students. Mason City was the largest with a total full-time enrollment of 756. It was found that the sophomore enrollments were much smaller than freshmen enrollments and there was a trend toward an

increasing number of students failing to return to the community colleges for the sophomore year. During the 1960-61 academic year the attrition rate in the community college (freshman class) was 17.60 percent. Of those students who remained at the end of the freshman year, slightly more than one-third did not return in the fall of that year as students in the 16 public community colleges.

It was found that the community colleges were also serving in the capacity of offering education to special students, extension students, and non-credit students. In 1960-61 there were 350 special students enrolled, 1,473 extension students, and 7,954 non-credit students.

For the 1961-62 school year there were 28 classes with five or fewer students enrolled and there were three classes that enrolled between 56 and 60. Seventy-two percent of the classes offered with five or fewer students enrolled were found in the combined totals of six community colleges.

There were 335 faculty members teaching in the community colleges in 1961-62. Thirty-eight percent of the instructors had been employed five years or less, 61 percent had been employed ten years or less, eight percent had had no previous experience in community college teaching. There were, however, more teachers who had taught at least 31 years than there were in the beginning teachers category.

Mason City had the largest number of full-time staff members while Clinton and Emmetsburg had no full-time

teachers. The maximum teaching load ranged from a low of 15.0 hours to a high of 23.4 hours taught.

The average maximum teaching load had decreased from 20.01 hours in 1957-58 to 18.39 hours in 1961-62. The average minimum for 1957-58 was 12.36 hours but had increased to 14.41 hours for the 1961-62 academic year. In 1961-62 there were 102 full-time community college teachers and 233 part-time instructors with a full-time equivalency of 105.15. Four community college staff members had doctoral degrees, 266 had masters' degrees and 63 had bachelors' degrees only. A total of 46 instructors were granted temporary approval by the State Department of Public Instruction.

Assessed valuations ranged from $6,094,449 at Centerville to a high of $50,557,596 at Mason City. The range of the assessed valuation per community college student in each of the 16 districts maintaining a community college ranged from a low of $64,903 at Centerville to a high of $296,688 at Clinton. The mean per student cost had risen from $484.20 in 1957-58 to $602.23 in 1961-62. Approximately one-third of the total receipts in 1961-62 came from tuition assessments. The number of hours taken by community college students before transfer to a senior institution ranged from a low of 36.44 for the transfers from Marshalltown to a high of 56.25 at Keokuk.

With respect to survival and attrition information was available on 1,080 students in the study. Graduates numbered

661 while 419 dropped out of the senior institutions. This represented a total attrition rate of 38.51 percent. The State College of Iowa showed the lowest attrition rate with 22.06 percent while Iowa State University registered the highest attrition rate with 49.62 percent. Slightly more than 50 percent of those who transferred from the 16 public community colleges to Iowa State University were graduated from the senior institution; over 62 percent were graduated from the State University of Iowa; and over 77 percent were graduated from the State College of Iowa. Of the individuals who were graduated from the three state institutions, those who had attended Iowa State University had the highest high school grade point average with a 2.86; those who entered the State College of Iowa had the lowest high school grade point with 2.21. The highest community college grade point average was obtained by those students who transferred to the State University of Iowa. For all students who transferred to the three senior state institutions, the high school grade point averages ranged from a low of 2.16 for those who transferred to SCI to a high of 2.70 for those who transferred to Iowa State University. Community college grade point averages ranged from a low of 2.38 for those who transferred to SCI to a high of 2.62 for those who transferred to SUI.

Of those who transferred to ISU, 27.19 percent were graduated from the community colleges and were also

graduated from Iowa State University. For transfer students to the State University of Iowa, 45.76 percent of those who graduated from the community colleges also graduated from SUI. For the community college graduates who transferred to the State College of Iowa, 62.86 percent were graduated from SCI. Slightly more than 17 percent of the community college dropouts that matriculated at SUI graduated from that institution, 18.29 percent graduated from the State College of Iowa, 23.68 percent graduated from the Iowa State University.

Nearly one-third of those persons who attended the 16 public community colleges in Iowa attended high school in a district other than the district in which the community college was located. There was a total of 75 different curricula into which students transferred in the three state senior institutions. After having been combined into eight groups a tabulation was compiled to show the entering curriculum and graduation attrition based on entrance into that curriculum. The survival rate was highest (79.03 percent) for those who entered into education and lowest (49.32 percent) for those who entered engineering.

When students' first term grade point averages at the three state senior institutions were compared with high school grade point and community college grade point, there was a tendency toward higher correlation between community college grade point and the criterion. When students' grade points

average at the end of the first year were compared to high school grade point, first term senior college grade point and community college grade point, there was a tendency toward higher correlation between first term senior college grade point average and grade point at the end of the first year.

When the students' probability of graduation was compared with high school grade point and community college grade point, there was a higher correlation between community college grade point and the criterion.

Involved in the prediction of academic success of community college students who transferred to the three state senior institutions were three objectives: (1) to predict the grade points of community college transfer students who matriculated at each of the three institutions of higher learning, including (a) all students who transferred from the fall of 1955 up to, but not including, the fall of 1959, (b) those students who had taken 30 semester hours in a community college before transfer, and (c) those students who had taken 60 semester hours before transfer; (2) to predict grade point at the end of the first year in a senior institution on a similar basis; and (3) to predict the probability of being graduated from the three state senior institutions.

The variables used in prediction of grade point at the end of the first term were high school grade point, community college grade point, and ACE score (ISU only).

The variables used in prediction of grade point at the end of the first year were high school grade point, community college grade point and first term grade point. The prediction of graduation was based on community college grade point. The following were found to be the most probable chances for graduation. When the community college average was between 2.01 to 2.50, the probability of graduation

at ISU was .38

at SUI was .55

at SCI was .73 .

When the community college average was from 3.01 to 3.50, the probability of graduation

at ISU was .70

at SUI was .87

at SCI was .82 .

BIBLIOGRAPHY

1. American Association of Junior Colleges. Junior College Directory, 1962. 1962.

2. American Association of Junior Colleges. Commission of Legislation. Washington, D. C., Author. 1962.

3. American Association of Junior Colleges. Commission of Legislation. A guide to state legislation for community colleges. (Mimeographed) Washington, D. C., Author. 1960.

4. Angell, James Rowland. The junior college movement in high schools. School Review. 23: 514-518. 1915.

5. Barton, John W. Trends in the junior college curriculum. Junior College Journal. 25: 413-416. 1935.

6. Bolton, Frederick E. Status of the junior college in Washington. Junior College Journal. 4: 57-65. 1933.

7. Campbell, Doak S. A critical study of the stated purposes of the junior college. Contribution to Education no. 70. Nashville, Tenn., George Peabody College for Teachers. 1930. Original not available; cited in Fields, Ralph R. The community college movement. New York, N. Y., McGraw-Hill Book Co., Inc. 1962.

8. Cavan, Jordon T. What kind of college gets the brightest students. Journal of Higher Education. 8: 266-269. 1937.

9. Colvert, C. C. Cost per student in the public junior colleges in the United States. Junior College Journal. 27: 396-401. 1957.

10. De Ritter, Lawrence M. Comparative scholastic achievement of native and transfer students. Junior College Journal. 22: 83-85. 1951.

11. De Young, Chris A. American education. 4th ed. New York, N. Y., McGraw-Hill Book Co., Inc. 1960.

12. Eells, Walter Crosby. American junior colleges. Washington, D. C., American Council on Education. 1940.

13. _____. Junior college terminal education. Junior College Journal. 10: 244-250. 1940.

14. _____. Success of transferring graduates of junior college terminal curricula. American Association of Collegiate Registrars Journal. 18: 372-398. 1943.

15. Engleman, Lois E. and Eells, Walter C. Report of a 1904 committee in The Literature of Junior College Terminal Education. Washington, D. C., American Association of Junior Colleges. 1941.

16. Fields, Ralph R. The community college movement. New York, N. Y., McGraw-Hill Book Co., Inc. 1962.

17. Gibson, Raymond C. The junior colleges of Iowa. (Study No. IV. of Resources and Needs for Higher Education in Iowa) Des Moines, Ia., Iowa Legislative Research Bureau. 1961.

18. Gleazer, Edmund J., Jr. From the executive director's desk. Junior College Journal. 31: 107-111. 1961.

19. Gleazer, Edmund J., Jr. A new social invention. Washington, D. C., American Association of Junior Colleges. 1961.

20. Gordon, Shirley Blom. An appraisal of certain aspects of the curricula of the community-junior colleges in Washington. Microfilm copy. Unpublished Ph. D. thesis. Pullman, Washington, Washington State University. 1957.

21. Hagie, Glenn Daryl. A comparative study of junior college students with students in lower division colleges having only undergraduate programs. Microfilm copy. Unpublished Ph. D. thesis. Pullman, Washington, Washington State University. 1955.

22. Hall, George L. Confusion in control of the junior college. Junior College Journal. 32: 432-436. 1962.

23. Havighurst, Robert J. and Neugarten, Bernice L. Society and education. Englewood Cliffs, N. J., Allyn and Bacon, Inc. 1957.

24. Henderson, Algo D. Policies and practices in higher education. New York, N. Y., Harper and Brothers, Publishers. 1960.

25. Hill, Merton E. History terminal courses in California. Junior College Journal. 12: 311-313.

26. Hillway, Tyrus. The American two-year college. New York, N. Y., Harper and Brothers, Publishers. 1958.

27. Hollinshead, Byron S. The community junior college program. Junior College Journal. 7: 111-116. 1936.

28. Iowa Code, 1931: 554. 1931.

29. Iowa Code, 1954: 280. 1954.

30. Iowa Code, 1958: 286. 1958.

31. Iowa Code, 1962: 286. 1962.

32. Iowa State Department of Public Instruction. Education beyond high school age: the community college, 1962. 1962.

33. Iowa General Assembly Acts 44, Chapter 58. 1931.

34. Iowa General Assembly Acts 53, Chapter 117. 1949.

35. Koos, Leonard V. Business education: the present status. Junior College Journal. 2: 191-194. 1932.

36. _____. The junior college movement. Boston, Mass., Ginn and Company. 1925.

37. Lagomarcino, Virgil Seth. An appraisal of the public junior colleges in Iowa. Unpublished Ph. D. Thesis. Ames, Iowa, Library, Iowa State University of Science and Technology. 1955.

38. Lange, Alexis F. The junior college as an integral part of the public school system. School Review. 25: 465-479. 1917.

39. Lindsay, Frank B. California junior colleges: past and present. California Journal of Secondary Education. 22: 137-142. 1947.

40. Love, Malcolm A. The Iowa public junior college: its academic, social, and vocational effectiveness. University of Iowa Studies in Education. 10: 1-28. 1938.

41. McCarrel, Ted, Beard, Marshall R. and Gowan, Arthur M. A study of students transferring to the University of Iowa, Iowa State Teachers College, and Iowa State College, April, 1958. (Mimeographed) Ames, Iowa, Iowa State University of Science and Technology, Registrars Office. 1958.

42. McCowell, Frank M. The curriculum of the junior college. U. S. Bureau of Education Bulletin No. 19. 1922.

43. Martorana, S. V. The legal status of American public junior colleges, in Bogue, Jesse P. American Junior Colleges. Washington, D. C., American Council on Education. 1956. Original not available for examination; cited in Hillway, Tyrus. The American two-year college. New York, N. Y., Harper and Brothers, Publishers. 1958.

44. _____. Recent state legislation affecting junior colleges. Junior College Journal. 28: 307-321. 1958.

45. Medsker, Leland L. The junior college: progress and prespect. New York, N. Y., McGraw-Hill Book Co., Inc. 1960.

46. Morrison, D. G. Research and the two-year college. Junior College Journal. 29: 128-132. 1958.

47. National Society for the Study of Education. Fifty-Fifth Yearbook. Part 1. 1956.

48. Oran, Claude B. Why a junior college? Junior College Journal. 24: 345-347. 1954.

49. Paige, John W. Commuting to New York colleges. New York State Education Department Bulletin No. 1320. Albany, N. Y., University of the State of New York. 1946. Original not available for examination; cited in Henderson, Algo D. Policies and practices in higher education. New York, N. Y., Harper and Brothers, Publishers. 1960.

50. Parker, Franklin. The community junior college -- enfant terrible of American higher education: a bibliography of 225 doctoral research dissertations. Junior College Journal 32: 193-204.

51. Reynolds, James W. The public junior college. Fifty-Fifth Yearbook of the National Society for the Study of Education. Part 1. 1956.

52. Ricciardi, Nicholas. Vital junior college problems in California. Junior College Journal. 1: 24-27. 1930.

53. Sack, Saul. The first junior college. Junior College Journal. 30: 13-15. 1959.

54. Seashore, Harold. Academic abilities of junior college students. Junior College Journal. 29: 74-80. 1958.

55. _____. The junior college movement. New York, N. Y., Henry Holt and Company. 1940.

56. Snedecor, George W. Statistical methods applied to experiments in agriculture and biology. 5th edition. Ames, Iowa, Iowa State College Press. 1956.

57. Starrak, James A. and Hughes, Raymond M. The community college in the United States. Ames, Iowa, Iowa State College Press. 1954.

58. Starrak, James A. and Hughes, Raymond M. The new junior college. Ames, Iowa, Iowa State College Press. 1948.

59. Thomas, Frank Waters. A study of the functions of the public junior colleges and the extent of their realization in California, in Abstracts of Dissertations, 1926-27, Leland Stanford University Bulletin, Ser. 5, No. 47. 1928. Original not available for examination; cited in Fields, Ralph R. The community college movement. New York, N. Y., McGraw-Hill Book Co., Inc. 1962.

60. Thornton, James W., Jr. The community junior college. New York, N. Y., John Wiley and Sons, Inc. 1960.

61. Thurstone, Ll., Thurston, T. G., and Adkins, D. C. The 1938 psychological examination. Educational Record. 20: 287-290. 1939.

62. Wert, J. E., Neidt, C. O., and Ahmann, J. S. Statistical methods in educational and psychological research. New York, Appleton-Century Crofts, Inc. 1954.

63. Williams, Glenn D. Toward more effective junior college districts. Junior College Journal. 31: 305-307. 1960.

64. Wood, William R. A new dimension in higher education. Junior College Journal. 25: 430-432. 1955.

APPENDIX

HOUSE RESOLUTION 6

By Committee on Institutions of Higher Learning

House Resolution directing the department of public instruction to prepare a statewide plan for the development of public area community colleges and to study and make recommendations concerning high-school vocational and technical education programs.

Whereas, the Gibson report on the resources and needs for higher education in Iowa pointed out that public policy governing higher education in Iowa must recognize the educational and vocational aspirations of all persons who will need education beyond the high school; and

Whereas, such report states that less than one-tenth of college-age youth receive the bachelor's degree; and

Whereas, such report recommends that public area community colleges be authorized by the legislature and that the planning of such colleges be the responsibility of the state board and department of public instruction; and

Whereas, more than seventy percent of Iowa youth go to work with a high-school education or less, and there is need to examine the vocational and technical education programs at the high school level to determine whether they are adequate to meet the educational needs of workers who have to adjust to changing opportunities; now, therefore,

Be It Resolved by the House of Representatives, that the department of public instruction be directed to study and prepare a plan for a statewide system of public area community colleges, such plan to include all areas of the state and to take into consideration the program now offered by the existing junior colleges of the state.

Be It Further Resolved, that from the results of its findings from this study the department submit, by December 1, 1962, to the members of the General Assembly its recommendations, with proposed legislation to implement such recommendations and plan, such recommendations and plan to relate to, but not limited to, the following matters:

1. Criteria for establishment of such colleges;
2. Organization, legal control, supervision and financial support of such colleges;
3. Regional location of such colleges;
4. Functions to be performed by such colleges in offering:
    a. the first two years of regular college work including preprofessional education,
    b. vocational and technical education,
    c. programs for in-service training and retraining of workers,
    d. guidance and counseling services to assist local students in planning their education and occupational careers, and
    e. community services;
5. Relationships of such community colleges with other

parts of the educational system in this state.

Be It Further Resolved, that as part of such study the department of public instruction shall study the availability of vocational and technical education in Iowa high schools, and from this study recommend to the General Assembly and local school authorities ways and means to provide the necessary vocational and technical training for Iowa youth and adults at this level of education, such study to be concerned primarily with the availability of and plans for vocational and technical education in the fields of trades and industry and business, both at the high-school level and the adult education level.